

135-TRC-09-002

**SAFETY COMPLIANCE TESTING FOR FMVSS 135
Passenger Car Brake Systems**

Honda of America Manufacturing, Inc.
2009 Honda Accord LX, 4-Door Sedan
NHTSA No. C95300

TRANSPORTATION RESEARCH CENTER INC.

10820 State Route 347
East Liberty, Ohio 43319



Final Report Completed: March 13, 2009

FINAL REPORT

Prepared Under Contract No.: DTNH22-06-C-00033

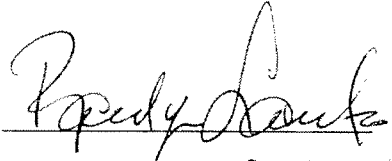
**U.S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Enforcement**

**Office of Vehicle Safety Compliance
1200 New Jersey Avenue S.E.
West Building 4th Floor
OVSC (NVS-221)
Washington, DC 20590**

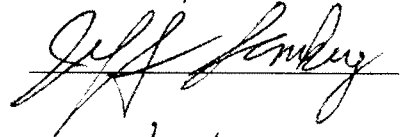
Prepared for the Department of Transportation, National Highway Traffic Safety Administration, under Contract No. DTNH22-06-C-00033.

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Prepared By



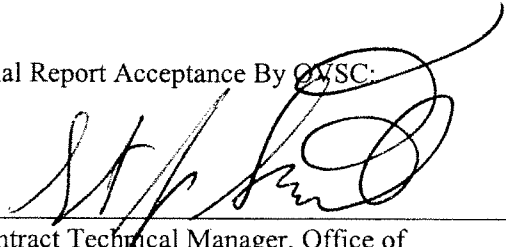
Approved By



Approval Date:

3/16/09

Final Report Acceptance By QVSC:



Contract Technical Manager, Office of
Vehicle Safety Compliance

3/23/09

Acceptance Date

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		6. PERFORMING ORGANIZATION CODE: TRC 20060110/9359	
7. AUTHOR(S): Project Manager: ALAN IDA Project Engineer: RANDALL A. LANDES		8. PERFORMING ORGANIZATION REPORT NO.: TRC-DOT-135-086	
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15. SUPPLEMENTARY NOTES:			
16. ABSTRACT: Compliance tests were conducted on the subject 2009 Honda Accord LX, 4-Door Sedan, in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-135-01 for the determination of FMVSS 135 compliance. Test failures identified were as follows: None.			
17. KEY WORDS: Compliance Testing Safety Engineering FMVSS 135		18. DISTRIBUTION STATEMENT: Copies of this report are available from: NHTSA Technical Information Services NPO-411 1200 New Jersey Ave, S.E. Washington, DC 20590 Email: tis@nhtsa.dot.gov FAX: 202-493-2833	
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1.0 INTRODUCTION

Tests were conducted on a 2009 Honda Accord, 4-Door Sedan, manufactured by Honda of America Manufacturing, Inc., to determine compliance with FMVSS 135 "Passenger Car Brake Systems." All tests were conducted in accordance with the U.S. D.O.T., NHTSA Laboratory Procedure TP 135-01 and/or the corresponding TRC Inc. Test Procedure that was submitted to NHTSA for their approval. The Test Procedure was clearly described in the submitted document and has not been repeated in this report.

All stops were performed manually.

All tests were conducted by TRC Inc. personnel using the following TRC facilities:

7.5-Mile Test Track

Vehicle Maximum Speed

Burnish

Heating Snubs and Hot Performance Stops

Brake Cooling and Recovery Stops

Skid Pad

Cold Effectiveness Stops

High Speed Effectiveness Stops

Stops with Engine Off

Failed ABS

Failed Variable Proportioning Valve (if applicable)

Failed Hydraulic Circuits

Brake Power Assist Unit Failures

RBS Failure (if applicable)

EMF (Battery) Failure (if applicable)

Brake Slope

Parking Brake

Average PFC during the test period was 0.93 (Skid Pad) and 0.90 (Test Track) utilizing the ASTM E1337 w/E1336 tire method.

The test vehicle was ABS equipped. Therefore, the Wheel Lock Sequence and Adhesion Utilization Tests were not performed.

This vehicle met the requirements of FMVSS 135.

DATA SHEET 1 - VEHICLE INFORMATION

VEHICLE SPECS

Year: 2009	NHTSA No: C90507
Mfr: HYUNDAI MOTOR COMPANY	GVWR (Kg): 2150
Make: HYUNDAI	GAWR Front(Kg): 1260
Model: AZERA GLS	GAWR Rear(Kg): 1115
Body Style: 4 DOOR SEDAN	Wheelbase (mm): 2781.3
Mfr. Date: March 31 2008	Odometer: Start:127 MI. End:658 MI.
VIN: KMHFC46D49A349877	

BUSES ONLY

Chassis Mfg.: N/A
 Serial No.: N/A
 No. of Seats: N/A
 Manufacture Date: N/A

Engine Type: GASOLINE,MPI-DOHC, V6,PISTON	
Displacement: 3.3 LITER	Tire Size: P235/55R17
Engine Hspwr: N/A	Tire Type: ENERGY, MXV4 PLUS, XSE,TUBELESS
Idle Speed(rpm): 677.9985	Tire Mfr.: MICHELIN
Transmission Type: AUTO.5-SPD., FWD	GVWR Front Press.(kpa): 210
No. of Axles: 2	GVWR Rear Press.(kpa): 210

BRAKE APPLY SYSTEM

Brake Series: Front:DISC Rear:DISC	Power Assist Unit: YES
Brake Actuation	Pwr Unit w/Accumulator: NO
(Hydr. Circuit Split): DIAGONAL	Pwr Asst./Pwr Unit w/Backup: NO
Power Unit: VACUUM	Variable Prop. System: YES
Anti-Skid unit Mfr: BOSCH	Anti-Skid Device: YES
Parking Mechanism: YES	
Type of Parking Unit: AUTOMATIC TRANSMISSION W/PARK DETENT	
Mstr Cylinder Dia(mm): 0.00	Pedal Ratio: 4.0 : 1

FRONT SYSTEM BRAKE COMPONENT MATERIALS AND CONSTRUCTION:

BRAKE TYPE: DISC	Material: CAST
Drum Construction: N/A	LF Drum Shoe Cage Dia.(mm): 0.00
Disc Construction: CAST, VENTED	RF Drum Shoe Cage Dia.(mm): 0.00
Front Brake Dia.(mm): 303.00	LF Drum Dia. RESET(mm): 0.00
Fr Disc Thickness(mm): 28.04	RF Drum Dia. RESET(mm): 0.00
Lining Construction: Bonded	
FRONT BRAKE COMPONENT DIMENSIONS AND CODES:	
Inboard (Leading)	Outboard (Trailing)
Width(mm): 54.05	Width(mm): 54.18
Length(mm): 116.46	Length(mm): 116.46
Thickness(mm): 10.64	Thickness(mm): 10.62
Lining Code/Color: SAC PD38GH FF	Lining Code/Color: SAC PD38GH FF
Hyd. Piston Dia.(mm): 59.94	

DATA SHEET 1 - (CONTINUED)

REAR SYSTEM

BRAKE COMPONENT MATERIALS AND CONSTRUCTION:

BRAKE TYPE: DISC

Material: CAST

Drum Construction: N/A

LR Drum Shoe Cage Dia.(mm): 0.00

Disc Construction: CAST, UNVENTED

RR Drum Shoe Cage Dia.(mm): 0.00

Lining Construction: BONDED

LR Drum Dia. RESET(mm): 0.00

Rear Brake Dia.(mm): 282.07

RR Drum Dia. RESET(mm): 0.00

Rr Disc Thickness(mm): 9.09

Lining Construction: Bonded

REAR BRAKE COMPONENT DIMENSIONS AND CODES:

Inboard (Leading)

Outboard (Trailing)

Width(mm): 40.06

Width (mm): 40.11

Length(mm): 69.70

Length (mm): 69.75

Thickness(mm): 8.41

Thickness (mm): 8.53

Lining Code/Color: NBK D6234 FF

Lining Code/Color: NBK D6234 FF

Hyd Piston Dia (mm): 37.57

OTHER COMPONENT INFORMATION:

Friction-type Park Brake: HAND OPERATED

Non-Service Brake Type

Parking Brake: N/A

NOTE: If at any time after the test series has begun, any brake system part requires replacement or the brake system requires adjustments other than permitted in burnish and reburnish procedures, discontinue testing and notify the COTR immediately.

Technician:


DEREK BEVIS

Date:

3/16/09

Quality Assurance:


RANDY LANDES

3.0 SUMMARY OF TESTING

		Specification and Limit				TEST RESULTS (In compliance if one stop meets requirement)			
TEST	Loading Conditio n	Speed (km/h)	Min. Pedal Force (N)	Max. Pedal Force (N)	Stopping Distance Requirement (m)	Shortest Stop Min. Pedal Force (N)***	Shortest Stop Max. Pedal Force Newtons (Average – N)	Shortest Stop Stopping Distance (m) (Corrected)	PASS Fail
Equipment Requirements					Specified Equipment	Vehicle contains specified equipment			Pass
Vehicle Maximum Speed	LLVW	NA				197.2 km/h avg.			NA
Burnish	GVWR	80				200, 80 - 0 km/h stops @ 3.0 mpsps			NA
Wheel Lockup Sequence w/o ABS	GVWR				Lockup of front wheels prior to rear	ABS equipped – not required.			NA
Wheel Lockup Sequence w/o ABS	LLVW					ABS equipped – not required.			NA
Adhesion Utilization w/o ABS	LLVW							Rear axle adhesion utilization curve below specified value	ABS equipped – not required.
Adhesion Utilization w/o ABS	GVWR	ABS equipped – not required.							NA
Cold Effectiveness	GVWR	100	65	500	70	5	446.5	47.5	Pass
High Speed Effectiveness	GVWR	157.7	65	500	spd. depend. – 182.4	5	441.6	110.4	Pass
Stops with Engine Off	GVWR	100	65	500	70	5	448.3	45.2	Pass
Cold Effectiveness	LLVW	100	65	500	70	5	480.8	43.1	Pass
High Speed Effectiveness	LLVW	157.7	65	500	spd. depend. – 182.4	5	460.0	106.3	Pass
Failed Antilock	LLVW	100	65	500	85	5	132.3	68.2	Pass
Failed Proportioning Valve	LLVW	100	65	500	110	5	NA	NA	NA
Failed Hydraulic Circuit #1	LLVW	100	65	500	168	5	453.8	82.7	Pass
Failed Hydraulic Circuit #2	LLVW	100	65	500	168	5	469.0	90.1	Pass
Failed Hydraulic Circuit #1	GVWR	100	65	500	168	5	457.3	85.9	Pass
Failed Hydraulic Circuit #2	GVWR	100	65	500	168	5	469.4	90.6	Pass
Failed Antilock	GVWR	100	65	500	85	5	140.9	61.2	Pass
Failed Proportioning Valve	GVWR	100	65	500	110	5	NA	NA	NA
Regenerative Brake System (RBS) Failure	GVWR	100	65	500	168	5	NA	NA	NA
Electromotive Force (EMF) – Battery Failure	GVWR	100	65	500	70	5	NA	NA	NA
Power Brake Unit Failure	GVWR	100	65	500	168	5	490.3	143.7	Pass
Parking Brake - Uphill	GVWR	-	-	400	Hold for 5 min.?	NA	393.7	Yes-Holds	Pass
Parking Brake - Downhill	GVWR	-	-	400	Hold for 5 min.?	NA	374.1	Yes-Holds	Pass
Heating Snubs	GVWR	120-60	NA	NA	15 Snubs- 3.0 mpsps	5	56 Vis. Avg.	NA	NA
Hot Performance Stop #1	GVWR	100	65	337 avg	72.7	5	296.2 (254.7)	54.0	Pass
Hot Performance Stop #2	GVWR	100	65	500	89	5	453.0 (385.0)	51.9	Pass
Brake Cooling	GVWR	50	NA	NA	4 Stops - 3.0 mpsps	5	63 Vis. Avg.	NA	NA
Recovery Performance Stop #1	GVWR	100	65	337 avg	One of the two stops between 35.0 and 63.7 meters.	5	359.8 (245.6)	45.1	Pass
Recovery Performance Stop #2	GVWR	100	65	337 avg		5	313.0 (244.6)	45.1	
Final Inspection-Brake Integrity	Check components for detachment, fracture or lubricants.					No detachments or fractures-normal appear. & colr.			Pass
Final Inspection-Reservoirs/Warning Indicators	Master cylinder or brake power reservoir shall meet the volume and label requirements of S5.4.2 and S5.4.3.					Brake system has sufficient capacity and indicators are in compliance.			Pass

*** Note: The Shortest Stop Minimum Pedal Force represents the minimum force value required to engage the data acquisition's recording mode.

DATA SHEET 3 - VEHICLE WEIGHT

VEHICLE: 2009 HONDA ACCORD LX

NHTSA No. C95300 Date: 02/24/09

Tire Pressure(cold): Front (kpa) 210 Rear (kpa) 210

Odometer: Start 166 MI. End 626

Scale(s) Used: TRC Scales

NOTE: GVWR, LLVW and axle weights to be measured within +0% and -1%.

GVWR/GAWR INFORMATION

(From Veh. Certification Label)

GVWR(Kg): 1950

GAWR Front(Kg): 1060

GAWR Rear(Kg): 915

UNLOADED VEHICLE WEIGHT(UVW)

L Front(Kg): 428 L Rear(Kg): 297

R Front(Kg): 435 R Rear(Kg): 288

T Front(Kg): 863 T Rear(Kg): 585

Total UVW(Kg): 1448

TARGET LIGHT LOADED WEIGHT(LLVW):

ACTUAL LIGHT LOADED WEIGHT(LLVW):

NOTE 1: LLVW = UVW+181.4Kg

NOTE 2: Weight distributed in front passenger seat area.

NOTE 3: Neither axle load at LLVW less than at UVW; ballast as required.

L Front(Kg): 474 L Rear(Kg): 342

R Front(Kg): 483 R Rear(Kg): 330

T Front(Kg): 957 T Rear(Kg): 672

Total LLVW(Kg): 1629

L Front(Kg): 491 L Rear(Kg): 354

R Front(Kg): 466 R Rear(Kg): 318

T Front(Kg): 957 T Rear(Kg): 672

Total Actual Test LLVW(Kg): 1629

Load: Driver/Observer 118(Kg) + Instru. 41(Kg) + Ballast 23(Kg) = 181(Kg)

FULLY LOADED TEST WEIGHT (ACTUAL GVWR)

NOTE 1: Vehicle loaded so axle loads proportional to GAWR shown previously.

NOTE 2: But no axle weight to be less than at LLVW.

NOTE 3: If weight on any axle at LLVW exceeds the axle's proportional share of the GVWR, the load required to reach GVWR is placed so that the weight on that axle remains the same as at LLVW.

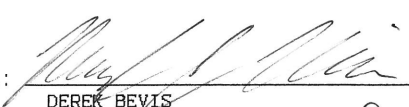
L Front(Kg): 520 L Rear(Kg): 458

R Front(Kg): 526 R Rear(Kg): 445

T Front(Kg): 1046 T Rear(Kg): 903

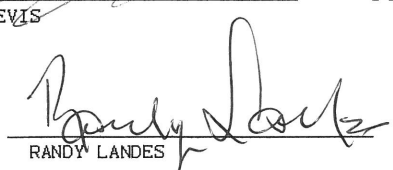
Total Fully Loaded GVWR(Kg): 1949

Load: Driver/Observer 118(Kg) + Instru. 41(Kg) + Ballast 342(Kg)= 501(kg)

Technician: 

DEREK BEVIS

Date: 3/16/09

Quality Assurance: 

RANDY LANDES

DATA SHEET 4 - EQUIPMENT REQUIREMENTS (S5)

SERVICE BRAKE SYSTEM (S5.1)

Vehicle equipped with a service brake system acting on all wheels? YES

Wear Adjustment (S5.1.1):

Service Brakes are compensated for wear by means of a system of automatic adjustment? YES

Describe: DISC: AUTOMATIC CLEARANCE TAKE-UP.

Wear Status (S5.1.2):

Wear status of service brakes is indicated by:

(A) Acoustic or optical device? YES

Describe: METAL TAB EMITS HIGH FREQUENCY SQUEAL WHEN WORN.

(B) Visual check outside or under vehicle? YES

Describe: FRONT & REAR: LOOK THROUGH CALIPER.

PARKING BRAKE SYSTEM (S5.2)

Vehicle equipped with a parking brake system of a friction type with solely mechanical means to retain engagement: YES

CONTROLS (S5.3)

(A) Service brakes activated by means of a foot control? YES

(B) Parking brake control is independent of the service brake control? YES

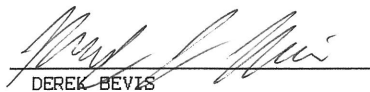
(C) Parking brake control is hand or foot operated? YES

(D) ABS, if equipped, cannot be manually disabled? YES

DATA INDICATES COMPLIANCE: YES

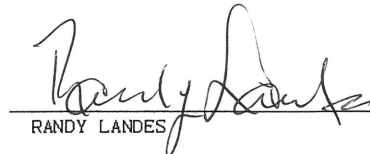
COMMENTS: NONE.

Tester/Technician:


DEREK BEVES

Date: 3/16/09

Quality Assurance:


RANDY LANDES

DATA SHEET 5 - VEHICLE MAX SPEED

VEHICLE: 2009 HONDA ACCORD LX

NHTSA No. C95300

Date: 02/24/09

Ambient Temperature: 34°F

Wind Velocity: 10(MPH)

Road PFC: .90

Wind Direction: 233°

Odometer: Start 180(mi) End 195(mi)

TEST WEIGHT: Total (Kg): *Calc Error Front (Kg): 957 Rear (Kg): 672

ESTABLISH VEHICLE MAXIMUM SPEED

VEHICLE LOAD: LLVW

IBT: N/A

GEAR: Drive

DECEL RATE: N/A

PEDAL FORCE: N/A

WHEEL LOCKUP: N/A

TEST SPEED: Maximum attainable from

INTERVAL: N/A

a standing start in 3.2 km.

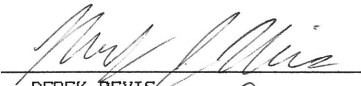
1. Ballast Vehicle to LLVW
2. Accelerate at a maximum rate from a standing start for a distance of 3.2 km on a level surface.
3. Repeat in opposite direction.
4. Record speed attained in each direction and use the average of the two runs.

	DIRECTION	MAX SPEED (km/h)		Time 0 - 100 KPH (seconds)
		Visual	Recorded	
Run No. 1	South	192 kph	192.1	10.60
Run No. 2	North	202 kph	202.2	10.28

AVERAGE = 197.2 km/h

COMMENTS: INV DATA, Section 0001, 02/24/09, 15:39:40

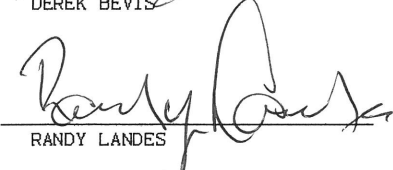
Tester/Technician:


DEREK BEVIS

Date:

3/16/09

Quality Assurance:


RANDY LANDES

Vehicle: 2009 HONDA OF AMERIC NHTSA NUMBER: C95300
Make: HONDA
Model: ACCORD LX
Body Style: 4-DR. SEDAN
Front Cold Tire Pressure: 210 (Kpa)
Rear Cold Tire Pressure: 210 (Kpa)

Transportation Research Center, Inc.
10820 State Route 347
East Liberty, Ohio 43319
(937) 666-2011 www.trcpg.com

Date Tested: 02/25/09

DATA SHEET 6 - BURNISH AT GVWR

Testing Conditions: INV DATA, Section 0002, 02/25/09, 10:05:55

Weather Conditions: 46°F Wind: 6 mph 211°

Start Odo.: 207 End Odo.: 466

Schedule:

Initial Brake Temperature Less Than 100°C
Initial Speed 80 km/h to zero
200 stops with transmission in gear

Performance Requirements:

Interval between runs: Time necessary to reduce IBT to 100 C° or 2 km distance, whichever occurs first.
Constant decel rate: 3.0 m/s²
Pedal force adjusted to maintain constant decel.
No Lock-Up allowed longer than 0.1 sec above 15 km/h
Vehicle Must stay in lane of 3.5m

STOP #	INIT SPD (kph)	LEFT FRONT	RIGHT FRONT	LEFT REAR	RIGHT REAR	MAX. PEDAL FORCE	AVG. PEDAL FORCE	AVG. DECEL
		(°C)	(°C)	(°C)	(°C)	(N)	(N)	(m/sec ²)
1	80.40	57	57	51	49	70.37	49.38	3.01
10	80.74	123	126	144	145	73.94	46.99	2.85
20	80.21	133	134	156	155	59.13	46.13	3.11
30	79.67	137	139	156	149	62.39	47.65	3.08
40	79.82	144	144	153	146	73.50	43.80	3.02
50	79.90	142	144	153	143	73.16	52.49	2.88
60	80.10	148	143	151	141	63.69	46.37	3.04
70	80.28	113	127	128	124	56.99	48.30	2.87
80	80.09	137	149	148	145	65.25	43.05	3.09
90	79.85	146	154	150	146	58.11	44.67	2.99
100	80.41	136	164	148	142	72.39	48.48	2.97
110	80.20	139	163	151	142	57.98	43.77	3.01
120	79.87	144	160	149	146	61.96	50.78	2.84
130	80.10	133	162	147	144	59.69	50.10	2.91
140	80.91	139	163	148	143	60.84	50.04	3.09
150	80.94	126	135	137	136	60.58	43.10	2.90
160	79.72	141	152	151	152	52.57	41.08	2.65
170	79.39	145	152	157	156	58.50	45.15	2.92
180	82.84	133	154	157	156	60.40	46.36	2.91
190	80.30	152	157	159	159	59.15	46.73	2.95
200	80.04	149	153	156	157	64.43	47.94	2.98

COMMENTS: THIS VEHICLE ABS EQUIPPED. DATA SHEETS 7-10 NOT INCLUDED.

BRAKE ADJUSTMENT

Schedule:

Adjust service brakes; record procedure and amount adjusted.

Left Front: DISC NONE
Right Front: DISC NONE
Left Rear: DISC NONE
Right Rear: DISC NONE

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: DEREK BEVIS
Recorded Data Processed by: CHUCK JENKINS
Approving Laboratory Official: RANDY LANDES

Observer: NONE
Date: 03/09/09
Date: 03/13/09

Vehicle: 2009 HONDA OF AMERIC NHTSA NUMBER: C95300
 Make: HONDA
 Model: ACCORD LX
 Body Style: 4-DR. SEDAN
 Front Cold Tire Pressure: 210 (Kpa)
 Rear Cold Tire Pressure: 210 (Kpa)

Transportation Research Center, Inc.
 10820 State Route 347
 East Liberty, Ohio 43319
 (937) 666-2011 www.trcpg.com

Date Tested: 02/26/09

DATA SHEET 11 - COLD EFFECTIVENESS AT GVWR

Testing Conditions: INV DATA, Section 0015, 02/26/09, 14:24:33

Weather Conditions: 49°F Wind: 7 mph 200° Start Odo.: 472 End Odo.: 478

Schedule:

Initial Brake Temperature 65 - 100 C
 Initial Speed 100 km/h to zero
 6 stops with transmission in neutral

Performance Requirements:

One Stop with:
 Stopping Distance less than 70m
 Pedal force between 65N and 500N
 No Lock-Up allowed longer than 0.1 sec above 15 km/h
 Vehicle Must stay in lane of 3.5m

STOP	INIT	LEFT	RIGHT	LEFT	RIGHT	ACTUAL	CORRECTED	MAX.	AVG.	MAX.	AVG.
#	SPD	IBT	IBT	IBT	IBT	DISTANCE	(SAE 299)	FORCE	PEDAL	FORCE	DECEL
	(kph)	(°C)	(°C)	(°C)	(°C)	(meter)	(meter)	(N)	(N)	(m/sec ²)	(m/sec ²)
1	99.88	79	81	77	78	48.5	48.7	427.16	351.05	11.78	7.37
2	99.77	90	93	75	74	48.0	48.2	444.05	338.84	12.30	7.61
3	100.86	87	92	61	60	51.4	50.6	369.12	281.65	13.75	6.85
4	100.96	90	96	64	62	48.5	47.5	446.47	329.09	13.58	7.31
5	99.32	97	93	66	59	47.6	48.3	435.76	336.64	12.26	7.56
6	99.97	86	97	69	61	51.0	51.0	405.39	303.79	12.27	6.95

STOP	DRIVER VEHICLE STOP COMMENTS				
#	(Wheel Lock up - Direction of Stop - Stay in Lane)				
1	-	NOX	SOUTH	YES	
2	-	NOX	SOUTH	YES	
3	-	NOX	SOUTH	YES	
4	-	NOX	SOUTH	YES	
5	-	NOX	SOUTH	YES	
6	-	NOX	SOUTH	YES	

Corrected Distances are used to determine shortest stopping distance.

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: DEREK BEVIS Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 03/09/09
 Approving Laboratory Official: RANDY LANDES Date: 03/13/09

Vehicle: 2009 HONDA OF AMERIC NHTSA NUMBER: C95300
 Make: HONDA
 Model: ACCORD LX
 Body Style: 4-DR. SEDAN
 Front Cold Tire Pressure: 210 (Kpa)
 Rear Cold Tire Pressure: 210 (Kpa)

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DATA SHEET 12 - HIGH SPEED EFFECTIVENESS AT GVWR

Testing Conditions: INV DATA, Section 0020, 03/02/09, 08:48:12

Weather Conditions: 13°F Wind: 7 mph 50° Start Odo: 491 End Odo: 500

Schedule:

Initial Brake Temperature: 65-100°C
 Initial Speed: 80% max km/h, not greater than 160km/h
 6 stops with transmission in gear
 Target Initial Speed: 157.72 kph

Performance Requirements:

One Stop with:
 Stopping Distance less than: 182.4 meter
 Pedal force between 65N and 500N
 No Lock-Up allowed longer than 0.1 sec above 15 km/h
 Vehicle Must stay in lane of 3.5m

STOP #	INIT SPD (kph)	LEFT FRONT	RIGHT FRONT	LEFT REAR	RIGHT REAR	ACTUAL DISTANCE (meter)	CORRECTED DISTANCE (SAE 299) (meter)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec ²)	AVG. DECEL (m/sec ²)
		IBT (°C)	IBT (°C)	IBT (°C)	IBT (°C)						
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
1	154.65	87	88	80	91	132.9	138.2	340.84	261.20	10.17	6.73
2	156.16	79	94	37	45	120.6	123.0	399.14	272.56	13.22	7.65
3	157.03	69	89	26	33	121.1	122.2	392.25	288.01	15.58	7.82
4	156.74	66	92	24	29	115.5	116.9	434.79	337.06	14.20	8.02
5	157.17	67	94	23	32	109.6	110.4	441.61	353.62	13.57	8.32
6	155.43	69	91	22	31	112.0	115.3	461.34	346.09	17.37	7.98

STOP #	DRIVER VEHICLE STOP COMMENTS				
	(Wheel Lock up - Direction of Stop - Stay in Lane)				
=====	=====				
1	-		NOX	SOUTH	YES
2	-		NOX	SOUTH	YES
3	-		NOX	SOUTH	YES
4	-		NOX	SOUTH	YES
5	-		NOX	SOUTH	YES
6	-		NOX	SOUTH	YES

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: DEREK BEVIS Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 03/09/09
 Approving Laboratory Official: RANDY LANDES Date: 03/13/09

Vehicle: 2009 HONDA OF AMERIC NHTSA NUMBER: C95300
 Make: HONDA
 Model: ACCORD LX
 Body Style: 4-DR. SEDAN
 Front Cold Tire Pressure: 210 (Kpa)
 Rear Cold Tire Pressure: 210 (Kpa)

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DATA SHEET 13 - STOPS WITH ENGINE OFF AT GVWR

Testing Conditions: INV DATA, Section 0025, 03/02/09, 10:03:08

Weather Conditions: 15°F Wind: 9 mph 59° Start Odo.: 501 End Odo.: 508

Schedule:

Initial Brake Temperature: 65-100°C
 Initial Speed 100 km/h to zero
 6 stops with transmission in neutral

Performance Requirements:

One Stop with:
 Stopping Distance less than 70m
 Pedal force between 65N and 500N
 No Lock-Up allowed longer than 0.1 sec above 15 km/h
 Vehicle Must stay in lane of 3.5m

STOP #	INIT	LEFT FRONT	RIGHT FRONT	LEFT REAR	RIGHT REAR	ACTUAL DISTANCE (meter)	CORRECTED DISTANCE (SAE 299) (meter)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec ²)	AVG. DECEL (m/sec ²)
	SPD	IBT	IBT	IBT	IBT						
	(kph)	(°C)	(°C)	(°C)	(°C)						
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
1	101.39	68	94	25	33	46.5	45.2	451.23	358.18	12.19	7.37
2	99.73	71	95	34	45	51.5	51.8	349.13	268.34	12.15	7.12
3	100.00	74	96	36	45	46.1	46.1	443.53	357.10	14.57	7.45
4	100.17	71	94	36	44	46.0	45.9	445.30	358.59	15.63	7.80
5	100.18	71	97	34	46	44.1	44.0	502.73	379.96	13.58	7.96
6	100.59	72	94	34	45	45.8	45.2	448.25	352.51	13.45	7.58

STOP #	DRIVER VEHICLE STOP COMMENTS		
	(Wheel Lock-Up	- Direction of Stop	- Stay in Lane)
1	-	NOX	SOUTH YES
2	-	NOX	SOUTH YES
3	-	NOX	SOUTH YES
4	-	NOX	SOUTH YES
5	-	NOX	SOUTH YES
6	-	NOX	SOUTH YES

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: DEREK BEVIS Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 03/09/09
 Approving Laboratory Official: RANDY LANDES Date: 03/13/09

Vehicle: 2009 HONDA OF AMERIC NHTSA NUMBER: C95300
 Make: HONDA
 Model: ACCORD LX
 Body Style: 4-DR. SEDAN
 Front Cold Tire Pressure: 210 (Kpa)
 Rear Cold Tire Pressure: 210 (Kpa)

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DATA SHEET 14 - COLD EFFECTIVENESS AT LLVW

Testing Conditions: INV DATA, Section 0030, 03/02/09, 11:09:52

Weather Conditions: 17°F Wind: 13 mph 38° Start Odo.: 510 End Odo.: 516

Schedule:

Initial Brake Temperature: 65-100°C
 Initial Speed 100 km/h to zero
 6 stops with transmission in neutral

Performance Requirements:

One Stop with:
 Stopping Distance less than 70m
 Pedal force between 65N and 500N
 No Lock-Up allowed longer than 0.1 sec above 15 km/h
 Vehicle Must stay in lane of 3.5m

STOP #	INIT SPD (kph)	LEFT FRONT	RIGHT FRONT	LEFT REAR	RIGHT REAR	ACTUAL DISTANCE (meter)	CORRECTED DISTANCE (SAE 299) (meter)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec ²)	AVG. DECEL (m/sec ²)
		IBT (°C)	IBT (°C)	IBT (°C)	IBT (°C)						
1	99.91	65	75	57	63	45.3	45.3	419.89	336.53	13.70	7.97
2	100.31	84	94	54	58	43.4	43.1	480.83	370.53	15.61	8.26
3	99.85	83	96	41	43	45.3	45.5	442.51	349.03	14.53	8.11
4	99.79	79	96	34	37	45.2	45.4	412.32	312.48	14.28	8.05
5	99.39	83	96	33	37	45.1	45.6	458.02	330.01	14.32	8.21
6	99.59	79	97	29	31	45.2	45.5	386.39	290.27	13.83	7.96

STOP #	DRIVER VEHICLE STOP COMMENTS			
	(Wheel Lock-Up - Direction of Stop - Stay in Lane)			
1	-	NOX	SOUTH	YES
2	-	NOX	SOUTH	YES
3	-	NOX	SOUTH	YES
4	-	NOX	SOUTH	YES
5	-	NOX	SOUTH	YES
6	-	NOX	SOUTH	YES

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: DEREK BEVIS Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 03/09/09
 Approving Laboratory Official: RANDY LANDES Date: 03/13/09

Vehicle: 2009 HONDA OF AMERIC NHTSA NUMBER: C95300
 Make: HONDA
 Model: ACCORD LX
 Body Style: 4-DR. SEDAN
 Front Cold Tire Pressure: 210 (Kpa)
 Rear Cold Tire Pressure: 210 (Kpa)

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DATA SHEET 15 - HIGH SPEED EFFECTIVENESS AT LLVW

Testing Conditions: INV DATA, Section 0035, 03/02/09, 11:49:02

Weather Conditions: 20°F Wind: 17 mph 66° Start Odo.: 517 End Odo.: 528

Schedule:

Initial Brake Temperature: 65-100°C
 Initial Speed: 80% max km/h
 6 stops with transmission in gear

Performance Requirements:

One Stop with:
 Stopping Distance less than 182.4m
 Pedal force between 65N and 500N
 No Lock-Up allowed longer than 0.1 sec above 15 km/h
 Vehicle Must stay in lane of 3.5m

STOP #	INIT SPD (kph)	LEFT FRONT (°C)	RIGHT FRONT (°C)	LEFT REAR (°C)	RIGHT REAR (°C)	ACTUAL DISTANCE (meter)	CORRECTED DISTANCE (SAE 299) (meter)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec ²)	AVG. DECEL (m/sec ²)
		IBT	IBT	IBT	IBT						
1	154.80	78	93	31	33	103.1	107.0	409.66	335.26	16.53	8.74
2	157.01	77	94	21	22	107.4	108.4	451.82	366.65	14.01	8.86
3	157.59	79	96	17	19	106.2	106.3	459.95	356.70	14.60	8.81
4	155.60	68	75	52	54	106.7	109.6	463.27	306.75	14.77	9.11
5	156.02	82	97	30	33	104.4	106.7	467.89	364.89	16.10	8.67
6	156.17	77	94	19	23	105.2	107.3	446.58	338.61	14.61	8.72

STOP #	DRIVER VEHICLE STOP COMMENTS			
	(Wheel Lock-Up - Direction of Stop - Stay in Lane)			
1	-	NOX	SOUTH	YES
2	-	NOX	SOUTH	YES
3	-	NOX	SOUTH	YES
4	-	NOX	SOUTH	YES
5	-	NOX	SOUTH	YES
6	-	NOX	SOUTH	YES

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: DEREK BEVIS Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 03/09/09
 Approving Laboratory Official: RANDY LANDES Date: 03/13/09

Vehicle: 2009 HONDA OF AMERIC NHTSA NUMBER: C95300
 Make: HONDA
 Model: ACCORD LX
 Body Style: 4-DR. SEDAN
 Front Cold Tire Pressure: 210 (Kpa)
 Rear Cold Tire Pressure: 210 (Kpa)

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DATA SHEET 16 - ANTILOCK FUNCTIONAL FAILURE AT LLVW

Testing Conditions: INV DATA, Section 0040, 03/02/09, 13:40:38

Weather Conditions: 20°F Wind: 16 mph 34° Start Odo.: 529 End Odo.: 537

Schedule:

Initial Brake Temperature: 65-100°C
 Initial Speed 100 km/h to zero
 6 stops with transmission in neutral

Performance Requirements:

One Stop with:
 Stopping Distance less than 85m
 Pedal force between 65N and 500N
 No Lock-Up allowed longer than 0.1 sec above 15 km/h
 Vehicle Must stay in lane of 3.5m

STOP #	INIT SPD (kph)	LEFT FRONT IBT (°C)	RIGHT FRONT IBT (°C)	LEFT REAR IBT (°C)	RIGHT REAR IBT (°C)	ACTUAL DISTANCE (meter)	CORRECTED DISTANCE (SAE 299) (meter)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec ²)	AVG. DECEL (m/sec ²)
1	100.23	72	92	17	21	68.5	68.2	132.26	107.25	9.63	5.76
2	100.27	66	88	46	59	60.8	60.4	133.25	107.07	10.72	6.30
3	100.15	72	93	56	61	80.3	80.1	105.67	88.89	7.82	5.11
4	101.14	76	94	54	58	84.7	82.8	105.95	89.91	7.22	4.78
5	99.08	77	96	54	57	70.0	71.3	110.98	97.82	8.75	5.47
6	100.24	78	98	54	54	69.3	69.0	109.12	96.95	8.56	5.50

STOP #	DRIVER VEHICLE STOP COMMENTS				
	(Wheel Lock-Up - Direction of Stop - Stay in Lane)				
1	-		NOX	SOUTH	YES
2	-		RRX	SOUTH	YES
3	-		NOX	SOUTH	YES
4	-		NOX	SOUTH	YES
5	-		NOX	SOUTH	YES
6	-		NOX	SOUTH	YES

How was the ABS failure induced: REMOVED AMBILICAL CORD TO THE ABS MODULE.

Is brake system indicator lamp activated: YES (X) NO ()

Comments: See Appendix C.

Vehicle equipped with ABS integral variable proportioning valve. Cannot separately fail. Data Sheet 17 not included.

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: DEREK BEVIS Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 03/09/09
 Approving Laboratory Official: RANDY LANDES Date: 03/13/09

Vehicle: 2009 HONDA OF AMERIC NHTSA NUMBER: C95300
 Make: HONDA
 Model: ACCORD LX
 Body Style: 4-DR. SEDAN
 Front Cold Tire Pressure: 210 (Kpa)
 Rear Cold Tire Pressure: 210 (Kpa)

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DATA SHEET 18 - HYDRAULIC CIRCUIT FAILURE #1 AT LLVW

Testing Conditions: INV DATA, Section 0050, 03/03/09, 08:42:00

Weather Conditions: 14°F Wind: 4 mph 84° Start Odo.: 544 End Odo.: 548

Method of simulating failure: Disconnected Brake Line @ M/C Front Port

System Portion Failed: RF & LR

Schedule:

Initial Brake Temperature: 65-100°C
 Initial Speed 100 km/h to zero
 4 stops with transmission in neutral

Performance Requirements:

One Stop with:
 Stopping Distance less than 168m
 Pedal force between 65N and 500N
 No Lock-Up allowed longer than 0.1 sec above 15 km/h
 Vehicle Must stay in lane of 3.5m

STOP	INIT	LEFT	RIGHT	LEFT	RIGHT	ACTUAL	CORRECTED	MAX.	AVG.		
#	SPD	FRONT	FRONT	REAR	REAR	DISTANCE	DISTANCE	PEDAL	PEDAL	MAX.	AVG.
	(kph)	(°C)	(°C)	(°C)	(°C)	(meter)	(SAE 299)	FORCE	FORCE	DECEL	DECEL
							(meter)	(N)	(N)	(m/sec ²)	(m/sec ²)
1	100.72	74	7	9	81	85.3	84.1	443.68	342.72	7.73	4.55
2	99.89	96	2	6	77	85.4	85.6	450.51	354.42	7.67	4.19
3	99.37	95	-0	1	56	84.5	85.6	457.65	364.44	8.41	4.47
4	100.84	91	-1	-1	53	84.1	82.7	453.80	372.36	8.61	4.34

STOP DRIVER VEHICLE STOP COMMENTS
 # (Wheel Lock-Up - Direction of Stop - Stay in Lane)

STOP	DRIVER	VEHICLE	STOP	COMMENTS
#	Wheel Lock-Up	Direction of Stop	Stay in Lane	
1	-	NOX	SOUTH	YES
2	-	NOX	SOUTH	YES
3	-	NOX	SOUTH	YES
4	-	NOX	SOUTH	YES

Force Needed to Activate Brake Failure Lamp (N): N/A
 Fluid Removed (mL) to Activate Brake Failure Lamp: 218

Is brake system indicator lamp activated: YES (X) NO ()

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: DEREK BEVIS Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 03/09/09
 Approving Laboratory Official: RANDY LANDES Date: 03/13/09

Vehicle: 2009 HONDA OF AMERIC NHTSA NUMBER: C95300
 Make: HONDA
 Model: ACCORD LX
 Body Style: 4-DR. SEDAN
 Front Cold Tire Pressure: 210 (Kpa)
 Rear Cold Tire Pressure: 210 (Kpa)

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DATA SHEET 19 - HYDRAULIC CIRCUIT FAILURE #2 AT LLVW

Testing Conditions: INV DATA, Section 0055, 03/03/09, 09:54:15

Weather Conditions: 18°F Wind: 1 mph 118° Start Odo.: 551 End Odo.: 555

Method of simulating failure: Disconnected Brake Line @ M/C Rear Port

System Portion Failed: LF & RR

Schedule:

Initial Brake Temperature 65-100°C
 Initial Speed 100 km/h to zero
 4 stops with transmission in neutral

Performance Requirements:

One Stop with:
 Stopping Distance less than 168m
 Pedal force between 65N and 500N
 No Lock-Up allowed longer than 0.1 sec above 15 km/h
 Vehicle Must stay in lane of 3.5m

STOP #	INIT SPD (kph)	LEFT FRONT IBT (°C)	RIGHT FRONT IBT (°C)	LEFT REAR IBT (°C)	RIGHT REAR IBT (°C)	ACTUAL DISTANCE (meter)	CORRECTED DISTANCE (SAB 299) (meter)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec ²)	AVG. DECEL (m/sec ²)
	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
1	99.48	36	79	85	22	91.6	92.6	449.55	362.11	8.60	4.03
2	100.53	19	95	52	15	92.8	91.8	482.14	379.15	8.98	4.00
3	100.59	16	96	51	9	93.2	92.1	446.51	347.34	9.56	3.95
4	100.42	9	98	43	5	90.9	90.1	468.98	382.88	10.00	4.14

STOP #	DRIVER VEHICLE STOP COMMENTS			
	(Wheel Lock-Up - Direction of Stop - Stay in Lane)			
1	-	NOX	SOUTH	YES
2	-	NOX	SOUTH	YES
3	-	NOX	SOUTH	YES
4	-	NOX	SOUTH	YES

Force Needed to Activate Brake Failure Lamp (N): N/A
 Fluid Removed (mL) to Activate Brake Failure Lamp: 218

Is brake system indicator lamp activated: YES (X) NO ()

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: DEREK BEVIS Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 03/09/09
 Approving Laboratory Official: RANDY LANDES Date: 03/13/09

Vehicle: 2009 HONDA OF AMERIC NHTSA NUMBER: C95300
 Make: HONDA
 Model: ACCORD LX
 Body Style: 4-DR. SEDAN
 Front Cold Tire Pressure: 210 (Kpa)
 Rear Cold Tire Pressure: 210 (Kpa)

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DATA SHEET 20 - HYDRAULIC CIRCUIT FAILURE #1 AT GVWR

Testing Conditions: INV DATA, Section 0060, 03/03/09, 13:14:57

Weather Conditions: 24°F Wind: 6 mph 71° Start Odo.: 564 End Odo.: 569

Method of simulating failure: Disconnected Brake Line @ M/C Front Port

System Portion Failed: RF & LR

Schedule:

Initial Brake Temperature 65-100°C
 Initial Speed 100 km/h to zero
 6 stops with transmission in neutral

Performance Requirements:

One Stop with:
 Stopping Distance less than 168m
 Pedal force between 65N and 500N
 No Lock-Up allowed longer than 0.1 sec above 15 km/h
 Vehicle Must stay in lane of 3.5m

		LEFT	RIGHT	LEFT	RIGHT		CORRECTED	MAX.	AVG.		
	INIT	FRONT	FRONT	REAR	REAR	ACTUAL	DISTANCE	PEDAL	PEDAL	MAX.	AVG.
STOP	SPD	IBT	IBT	IBT	IBT	DISTANCE	(SAE 299)	FORCE	FORCE	DECEL	DECEL
#	(kph)	(°C)	(°C)	(°C)	(°C)	(meter)	(meter)	(N)	(N)	(m/sec ²)	(m/sec ²)
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
1	100.58	73	26	19	85	90.0	89.0	464.41	381.79	6.85	4.19
2	100.74	80	21	15	87	93.8	92.5	493.78	374.96	7.27	4.09
3	100.88	96	16	12	75	87.8	86.3	452.99	386.82	7.50	4.08
4	101.02	96	13	13	84	87.7	85.9	457.31	391.54	7.22	4.21

STOP	DRIVER VEHICLE STOP COMMENTS			
#	(Wheel Lock-Up	-	Direction of Stop	- Stay in Lane)
=====	=====			
1	-		NOX	SOUTH YES
2	-		NOX	SOUTH YES
3	-		NOX	SOUTH YES
4	-		NOX	SOUTH YES

Is brake system indicator lamp activated: YES (X) NO ()

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: DEREK BEVIS Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 03/09/09
 Approving Laboratory Official: RANDY LANDES Date: 03/13/09

Vehicle: 2009 HONDA OF AMERIC NHTSA NUMBER: C95300
 Make: HONDA
 Model: ACCORD LX
 Body Style: 4-DR. SEDAN
 Front Cold Tire Pressure: 210 (Kpa)
 Rear Cold Tire Pressure: 210 (Kpa)

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DATA SHEET 21 - HYDRAULIC CIRCUIT FAILURE #2 AT GVWR

Testing Conditions: INV DATA, Section 0065, 03/03/09, 10:41:38

Weather Conditions: 20°F Wind: 3 mph 62° Start Odo.: 557 End Odo.: 561

Method of simulating failure: Disconnected Brake Line @ M/C Rear Port

System Portion Failed: LF & RR

Schedule:

Initial Brake Temperature 65-100°C
 Initial Speed 100 km/h to zero
 4 stops with transmission in neutral

Performance Requirements:

One Stop with:
 Stopping Distance less than 168m
 Pedal force between 65N and 500N
 No Lock-Up allowed longer than 0.1 sec above 15 km/h
 Vehicle Must stay in lane of 3.5m

STOP	INIT	LEFT	RIGHT	LEFT	RIGHT	ACTUAL	CORRECTED	MAX.	AVG.	MAX.	AVG.
#	SPD	FRONT	FRONT	REAR	REAR	DISTANCE	(SAE 299)	PEDAL	PEDAL	DECEL	DECEL
	(kph)	(°C)	(°C)	(°C)	(°C)	(meter)	(meter)	(N)	(N)	(m/sec²)	(m/sec²)
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
1	101.68	9	89	60	12	95.7	92.6	469.57	383.10	7.99	3.78
2	99.20	6	94	52	8	91.5	93.0	463.89	369.13	7.98	4.03
3	100.40	5	93	56	7	91.3	90.6	469.41	373.13	8.57	4.04
4	100.05	4	94	53	5	93.5	93.4	456.56	378.63	8.57	3.96

STOP	DRIVER VEHICLE STOP COMMENTS			
#	(Wheel Lock-Up	-	Direction of Stop	- Stay in Lane)
=====	=====			
1	-		NOX	SOUTH YES
2	-		NOX	SOUTH YES
3	-		NOX	SOUTH YES
4	-		NOX	SOUTH YES

Is brake system indicator lamp activated: YES (X) NO ()

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: DEREK BEVIS Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 03/09/09
 Approving Laboratory Official: RANDY LANDES Date: 03/13/09

Vehicle: 2009 HONDA OF AMERIC NHTSA NUMBER: C95300
 Make: HONDA
 Model: ACCORD LX
 Body Style: 4-DR. SEDAN
 Front Cold Tire Pressure: 210 (Kpa)
 Rear Cold Tire Pressure: 210 (Kpa)

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Date Tested: 03/03/09

DATA SHEET 22 - ANTILOCK FUNCTIONAL FAILURE AT GVWR

Testing Conditions: INV DATA, Section 0070, 03/03/09, 14:24:57

Weather Conditions: 28°F Wind: 2 mph 49° Start Odo.: 573 End Odo.: 579

Schedule:

Initial Brake Temperature 65-100°C
 Initial Speed 100 km/h to zero
 6 stops with transmission in neutral

Performance Requirements:

One Stop with:
 Stopping Distance less than 85m
 Pedal force between 65N and 500N
 No Lock-Up allowed longer than 0.1 sec above 15 km/h
 Vehicle Must stay in lane of 3.5m

STOP	INIT	LEFT	RIGHT	LEFT	RIGHT	ACTUAL	CORRECTED	MAX.	AVG.	MAX.	AVG.
#	SPD	FRONT	FRONT	REAR	REAR	DISTANCE	(SAB 299)	PEDAL	PEDAL	DECEL	DECEL
	(kph)	(°C)	(°C)	(°C)	(°C)	(meter)	(meter)	(N)	(N)	(m/sec ²)	(m/sec ²)
1	100.64	88	52	56	92	78.4	77.4	124.34	113.04	6.92	4.77
2	100.26	96	67	66	88	70.1	69.8	123.87	106.18	7.46	5.23
3	99.63	98	73	66	82	60.8	61.2	140.91	108.01	8.97	5.82
4	99.93	94	79	61	72	71.3	71.4	139.82	119.37	8.34	5.36
5	101.12	98	84	63	73	72.6	71.0	129.43	113.50	7.94	5.33
6	99.48	95	90	64	77	66.9	67.6	141.78	116.42	7.84	5.43

STOP	DRIVER VEHICLE STOP COMMENTS			
#	(Wheel Lock-Up - Direction of Stop - Stay in Lane)			
1	-	NOX	SOUTH	YES
2	-	NOX	SOUTH	YES
3	-	NOX	SOUTH	YES
4	-	NOX	SOUTH	YES
5	-	NOX	SOUTH	YES
6	-	NOX	SOUTH	YES

How was the ABS failure induced: REMOVED AMBILICAL CORD TO THE ABS MODULE.

Is brake system indicator lamp activated: YES (X) NO ()

Comments: See Appendix C.

Vehicle equipped with ABS integral variable proportioning valve. Cannot separately fail. Data Sheet 23 not included.

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: DEREK BEVIS Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 03/09/09
 Approving Laboratory Official: RANDY LANDES Date: 03/13/09

Vehicle: 2009 HONDA OF AMERIC NHTSA NUMBER: C95300
 Make: HONDA
 Model: ACCORD LX
 Body Style: 4-DR. SEDAN
 Front Cold Tire Pressure: 210 (Kpa)
 Rear Cold Tire Pressure: 210 (Kpa)

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Date Tested: 03/04/09

DATA SHEET 24 - BRAKE POWER UNIT OR PWR ASSIST UNIT IN/OP AT GVWR

Testing Conditions: INV DATA, Section 0080, 03/04/09, 08:44:15

Weather Conditions: 23°F Wind: 5 mph 201° Start Odo.: 585 End Odo.: 592

Failure Simulation: Disconnect primary source of power.

Method of rendering inoperative: Removed Engine Vacuum Hose at Booster

Schedule:

Initial Brake Temperature 65-100°C
 Initial Speed 100 km/h to zero
 6 stops with transmission in neutral

Performance Requirements:

One Stop with:
 Stopping Distance less than 168m
 Pedal force between 65N and 500N
 No Lock-Up allowed longer than 0.1 sec above 15 km/h
 Vehicle Must stay in lane of 3.5m

STOP	INIT	LEFT	RIGHT	LEFT	RIGHT	ACTUAL	CORRECTED	MAX.	AVG.	MAX.	AVG.
#	SPD	FRONT	FRONT	REAR	REAR	DISTANCE	(SAE 299)	PEDAL	PEDAL	DECEL	DECEL
	(kph)	(°C)	(°C)	(°C)	(°C)	(meter)	(meter)	(N)	(N)	(m/sec ²)	(m/sec ²)
1	100.00	54	80	86	82	161.1	161.2	474.16	436.76	3.81	2.56
2	100.14	82	91	90	84	153.2	152.8	486.76	450.42	4.00	2.62
3	100.56	89	95	87	82	145.3	143.7	490.30	450.94	4.11	2.73
4	99.76	90	96	83	78	153.5	154.2	486.79	443.12	4.16	2.64
5	99.98	94	97	85	77	149.0	149.1	479.84	450.08	4.02	2.64
6	100.51	94	97	81	75	148.0	146.5	479.34	450.79	3.87	2.68

STOP	DRIVER VEHICLE STOP COMMENTS			
#	(Wheel Lock-Up - Direction of Stop - Stay in Lane)			
1	-	NOX	SOUTH	YES
2	-	NOX	SOUTH	YES
3	-	NOX	SOUTH	YES
4	-	NOX	SOUTH	YES
5	-	NOX	SOUTH	YES
6	-	NOX	SOUTH	YES

Is the brake system indicator lamp activated: YES () NO (X)

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: DEREK BEVIS Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 03/09/09
 Approving Laboratory Official: RANDY LANDES Date: 03/13/09

Vehicle: 2009 HONDA OF AMERIC NHTSA NUMBER: C95300
 Make: HONDA
 Model: ACCORD LX
 Body Style: 4-DR. SEDAN
 Front Cold Tire Pressure: 210 (Kpa)
 Rear Cold Tire Pressure: 210 (Kpa)

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Date Tested: 03/04/09

DATA SHEET 25 - PARKING BRAKE AT GVWR

Testing Conditions: INV DATA, Section 0085, 03/04/09, 10:27:41

Parking brake: N/A

Non-service type: N/A

Service type: HAND OPERATED

Weather Conditions: 29°F

Wind: 10 mph 217°

Start Odo.: 595

End Odo.: 595

Test Weight: Total:1949kg

Front:1046kg

Rear: 903kg

Schedule:

Initial Brake Temperature <100°C or (Ambient temp.
 if non-service brake type materials)
 Loaded to GVWR with transmission in neutral
 Drive onto 20% slope in forward and reverse directions.

Performance Requirements:

Up to Three Applies in each direction:
 Parking brake must hold the vehicle stationary
 in both directions for 5 minutes each.
 Pedal force: Hand control: <400 N
 Foot control: <500 N

NOTE: For vehicles with parking brake systems not utilizing the
 service brake friction elements, the friction elements of such systems
 are to be burnished prior to parking brake tests according to the
 manufacturer's published recommendation as furnished to the purchaser.
 If no recommendations are furnished, test the system in an unburnished
 condition. If recommendations are furnished, record method used.

	MAX SERVICE FORCE (N)	MAX P-BRAKE FORCE (N)	LEFT REAR IBT (°C)	RIGHT REAR IBT (°C)	AVG REAR IBT (°C)	DRIVER VEHICLE STOP COMMENTS (Direction of Stop (Up/Down) - Brake holds/fails)			
APPLY #									
1	104.7	393.7	14	11	12.2	-	0 REAPPLY	UPHILL	HOLDS 20%
2	75.5	374.1	13	14	13.6	-	0 REAPPLY	DOWNHILL	HOLDS 20%

Is brake system indicator lamp activated: YES (X) NO ()

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: DEREK BEVIS
 Recorded Data Processed by: CHUCK JENKINS
 Approving Laboratory Official: RANDY LANDES

Observer: NONE
 Date: 03/09/09
 Date: 03/13/09

Vehicle: 2009 HONDA OF AMERIC NHTSA NUMBER: C95300
 Make: HONDA
 Model: ACCORD LX
 Body Style: 4-DR. SEDAN
 Front Cold Tire Pressure: 210 (Kpa)
 Rear Cold Tire Pressure: 210 (Kpa)

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Date Tested: 03/04/09

DATA SHEET 26 - HEATING SNUBS AT GVWR

Testing Conditions: INV DATA, Section 0090, 03/04/09, 11:35:01

Schedule:

Conduct 15 snubs from 120 Km/h or 80% Vmax, whichever is slower, to 1/2 of initial speed.
 Attain required decel in 1 second and maintain that decel.
 Interval between snubs is 45 seconds and WOT to initial speed.

Performance Requirements:

Initial IBT for first snub is 55-65°C
 Maintain 3.0 m/s/s deceleration
 Vehicle Must stay in lane of 3.5m

SNUB #	AVG. DECEL (m/sec ²)	Time Between Snubs (second)	AVG. PEDAL FORCE (N)	LEFT FRONT IBT (°C)	RIGHT FRONT IBT (°C)	LEFT REAR IBT (°C)	RIGHT REAR IBT (°C)	INIT SPD (kph)
1	3.25	--NA--	56.83	63	65	56	59	122.27
2	3.08	46	40.94	116	122	95	100	119.66
3	3.00	44	47.33	156	167	131	141	120.82
4	2.90	45	54.59	188	206	163	178	120.08
5	2.92	45	61.76	217	236	191	207	121.62
6	3.01	45	56.71	238	263	218	233	120.08
7	2.90	45	56.95	263	284	247	256	120.34
8	2.77	45	57.88	287	307	273	277	120.88
9	2.97	45	63.72	309	327	293	296	120.90
10	3.03	45	58.66	324	343	304	312	120.86
11	2.84	45	58.79	336	354	316	326	119.52
12	2.92	45	64.25	350	364	330	338	120.11
13	3.18	45	61.52	354	372	342	346	120.45
14	2.93	45	52.67	357	376	351	354	120.77
15	2.87	45	53.26	362	379	358	363	121.18

STOP #	DRIVER VEHICLE SNUB COMMENTS		
#	(Wheel Lock-Up -	Direction of Stop	Stay in Lane)
1	-	NOX	NORTH YES
2	-	NOX	EAST YES
3	-	NOX	SOUTH YES
4	-	NOX	SOUTH YES
5	-	NOX	SOUTH YES
6	-	NOX	WEST YES
7	-	NOX	NORTH YES
8	-	NOX	NORTH YES
9	-	NOX	NORTH YES
10	-	NOX	NORTH YES
11	-	NOX	EAST YES
12	-	NOX	SOUTH YES
13	-	NOX	SOUTH YES
14	-	NOX	SOUTH YES
15	-	NOX	SOUTH YES

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: DEREK BEVIS Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 03/09/09
 Approving Laboratory Official: RANDY LANDES Date: 03/13/09

Vehicle: 2009 HONDA OF AMERIC NHTSA NUMBER: C95300
 Make: HONDA
 Model: ACCORD LX
 Body Style: 4-DR. SEDAN
 Front Cold Tire Pressure: 210 (Kpa)
 Rear Cold Tire Pressure: 210 (Kpa)

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DATA SHEET 27 - HOT PERFORMANCE AT GVWR

Testing Conditions: INV DATA, Section 0095, 03/04/09, 11:46:02

Schedule:

Make 2 stops from 100 kph
 Pedal Force: 1st stop is done with an average force less than the average recorded in the shortest GVWR Cold Effectiveness stop.
 2nd stop is done with a force less than 500 N.

No Lock-Up allowed longer than 0.1 sec above 15 km/h.

Distance Requirements are based on the following:

shortest stop in Data Sheet 11 is: 5
 Initial speed of stop: 99.32 (kph)
 Actual distance of stop: 47.6 (meter)
 Average pedal force: 336.6 (N)

Performance Requirements:

Stop Number 1 must be less than: 72.7 (meter)
 In addition the stopping distance for at least one of the of the two hot stops must be less than: 89 (meter)

STOP #	INIT SPD (kph)	LEFT FRONT	RIGHT FRONT	LEFT REAR	RIGHT REAR	ACTUAL DISTANCE (meter)	CORRECTED DISTANCE (SAE 299) (meter)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec ²)	AVG. DECEL (m/sec ²)
		IBT (°C)	IBT (°C)	IBT (°C)	IBT (°C)						
1	99.16	373	393	367	373	53.1	54.0	296.16	254.72	13.45	6.56
2	101.30	379	399	369	378	51.9	50.6	452.99	384.99	13.63	7.00

STOP #	DRIVER VEHICLE STOP COMMENTS (Wheel Lock-Up - Direction of Stop - Stay in Lane)			
1	-	NOX	WEST	YES
2	-	NOX	NORTH	YES

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: DEREK BEVIS
 Recorded Data Processed by: CHUCK JENKINS
 Approving Laboratory Official: RANDY LANDES

Observer: NONE
 Date: 03/09/09
 Date: 03/13/09

Vehicle: 2009 HONDA OF AMERIC NHTSA NUMBER: C95300
 Make: HONDA
 Model: ACCORD LX
 Body Style: 4-DR. SEDAN
 Front Cold Tire Pressure: 210 (Kpa)
 Rear Cold Tire Pressure: 210 (Kpa)

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Date Tested: 03/04/09

DATA SHEET 28 - BRAKE COOLING STOPS AT GVWR

Testing Conditions: INV DATA, Section 0100, 03/04/09, 11:48:43

Schedule:

Initial Brake Temperature:
 Achieved on completing Hot Performance
 Initial Speed 50 km/h to zero
 4 stops with transmission in gear

Performance Requirements:

Constant Decel rate: 3.0 m/s/s
 Pedal force adjusted as necessary
 No Lock-Up allowed longer than 0.1 sec above 15 km/h
 Vehicle Must stay in lane of 3.5m

STOP #	INIT SPD (kph)	AVG. DECEL (m/sec ²)	AVG. PEDAL FORCE (N)	LEFT FRONT IBT (°C)	RIGHT FRONT IBT (°C)	LEFT REAR IBT (°C)	RIGHT REAR IBT (°C)
1	50.25	2.58	68.03	350	372	334	346
2	50.86	2.71	63.32	305	320	289	302
3	50.74	2.84	59.37	269	277	254	269
4	50.76	2.86	62.39	236	246	227	242

STOP #	DRIVER VEHICLE STOP COMMENTS (Wheel Lock up - Direction of Stop - Stay in Lane)		
1	-	NOX	NORTH YES
2	-	NOX	NORTH YES
3	-	NOX	NORTH YES
4	-	NOX	EAST YES

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: DEREK BEVIS	Observer: NONE
Recorded Data Processed by: CHUCK JENKINS	Date: 03/09/09
Approving Laboratory Official: RANDY LANDES	Date: 03/13/09

Vehicle: 2009 HONDA OF AMERIC NHTSA NUMBER: C95300
 Make: HONDA
 Model: ACCORD LX
 Body Style: 4-DR. SEDAN
 Front Cold Tire Pressure: 210 (Kpa)
 Rear Cold Tire Pressure: 210 (Kpa)

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Date Tested: 03/04/09

DATA SHEET 29 - RECOVERY PERFORMANCE AT GVWR

Testing Conditions: INV DATA, Section 0105, 03/04/09, 11:55:59

Weather Conditions: 33°F Wind: 10 mph 180° Start Odo.: 596 End Odo.: 618

Schedule:

Make 2 stops from 100 kph
 Pedal Force: Both stops are performed with an average force less than the average recorded in the shortest GVWR Cold Effectiveness stop.

Performance Requirements:

One of the two stops must be within the following limits:
 Upper limit of corrected stopping distance: 63.7 (meter)
 Lower limit of corrected stopping distance: 35.0 (meter)

No Lock-Up allowed longer than 0.1 sec above 15 km/h.

Distance Requirements are based on the following:

shortest stop in Data Sheet 11 is: Stop5
 Initial speed of stop: 99.32 (kph)
 Actual distance of stop: 47.6 (meter)
 Average pedal force: 336.6 (N)

STOP #	INIT	LEFT	RIGHT	LEFT	RIGHT	ACTUAL DISTANCE (meter)	CORRECTED DISTANCE (SAE 299) (meter)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec ²)	AVG. DECEL (m/sec ²)
	SPD (kph)	FRONT IBT (°C)	FRONT IBT (°C)	REAR IBT (°C)	REAR IBT (°C)						
1	100.21	197	224	208	222	45.3	45.1	359.79	245.63	13.03	7.72
2	100.74	231	247	216	232	45.8	45.1	312.98	244.61	13.38	7.67

STOP #	DRIVER VEHICLE STOP COMMENTS			
	(Wheel Lock-Up	-	Direction of Stop	- Stay in Lane)
1	-		NOX	SOUTH YES
2	-		NOX	SOUTH YES

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: DEREK BEVIS Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 03/09/09
 Approving Laboratory Official: RANDY LANDES Date: 03/13/09

DATA SHEET 30 (Part 1 of 5)
6.0 Test Completion Inspection (7.17)

VEHICLE: 2009 Honda Accord LX NHTSA NO.: C95300 ODO.: 626 mi. DATE: 03/06/09

System Integrity (S5.6)

Each vehicle shall meet the complete performance requirements of this standard without:

(a) Detachment or fracture of any component of the braking system such as brake springs and brake shoes or disc pad facings, other than minor cracks, that do not impair attachment of the friction facings. All mechanical components of the braking system shall be intact and functional. Friction facing tearout (complete detachment of lining) shall not exceed 10 percent of the lining on any single frictional element.

(b) Any visible brake fluid or lubricant on the friction surface of the brake or leakage at the master cylinder or brake power unit reservoir cover, seal, and filler openings.

Friction Material Condition: Primary/Inner		Friction Material Condition: Secondary/Outer	
LF	Normal Appearance & Color	LF	Normal Appearance & Color
RF	Normal Appearance & Color	RF	Normal Appearance & Color
LR	Normal Appearance & Color	LF	Normal Appearance & Color
RR	Normal Appearance & Color	RR	Normal Appearance & Color
Drum (or Rotor) Condition:		Brake Fluid/Lubricant Inside Brakes:	
LF	Normal Appearance & Color	LF	None
RF	Normal Appearance & Color	RF	None
LR	Normal Appearance & Color	LR	None
RR	Normal Appearance & Color	RR	None
Hydraulic Component Condition:		Mechanical Component Condition:	
LF	Good	Brk/Pedal	Good
RF	Good	Power Brk	Good
LR	Good	Stop/Lamp	Good
RR	Good	Linkage	Good
M/Cyl	Good	Other	NA

COMPLIANCE: Yes X No

Comments: None.

Technician: Derek Bevis

DATA SHEET 30 (Part 2 of 5)
TEST COMPLETION INSPECTION (\$7.17)

VEHICLE: 2009 Honda Accord LX;
 MASTER CYLINDER RESERVOIR:

NHTSA NO.: C95300;

GVWR: 1950 kg

DATE	03/05/09	Requirements	Pass	Fail
Reservoir Compartments (\$5.4.1)				
(1) Does master cylinder have a reservoir compartment for each brake subsystem?	<u>Yes</u>	Master cylinder shall have a reservoir compartment for each subsystem.	X	
	No			
(2) Does loss of fluid in one compartment result in complete loss from another compartment?	Yes	Loss of fluid from one compartment shall not cause complete loss from another compartment.	X	
	<u>No</u>			
Reservoir Capacity (\$5.4.2)				
Shall conform to requirements (1) or (2), state units:				
(1) For reservoirs having completely separate compartments for each subsystem (two separate, independent reservoirs):				
Subsystem 1 Subsystem reservoir capacity		Each compartment (reservoir) shall have a minimum capacity equivalent to the fluid displacement resulting when all wheel cylinders or caliper pistons serviced by that independent compartment/reservoir moves from a new lining, fully retracted position to a fully worn, properly adjusted, fully applied position. (Use Data Sheet 31 and Appendix 1A)	NA	NA
Subsystem 1 Fluid displaced from new to worn lining				
Subsystem 2 Subsystem reservoir capacity			NA	NA
Subsystem 2 Fluid displaced from new to worn lining				
2) For reservoirs utilizing a portion of the reservoir for a common supply to two or more subsystems:				
Total minimum capacity for the entire master cylinder reservoir (includes individual compartment reservoirs)	382 ml	Shall have total minimum capacity for entire reservoir for displacement resulting from all subsystem wheel cylinders or caliper positions moving from new lining to full worn condition as above.	X	
Fluid displaced from new to worn linings (ALL linings)	146.4 ml*			
*Value calculated from Data Sheet 31				

Comments: None.

Technician: Derek Bevis

DATA SHEET 30 (Part 3 of 5)
TEST COMPLETION INSPECTION (S7.18)

VEHICLE: 2009 Honda Accord LX; NHTSA NO.: C95300; GVWR: 1950 kg

MASTER CYLINDER RESERVOIR:

DATE	03/05/09	Requirements	Pass	Fail
Master Cylinder Piston Displacement(S5.4.2) [If Common Reservoir Supply - continued from previous page]				
Fluid displaced by three strokes of master cylinder piston for Subsystem No. 1.	23.5 ml	Individual partial compartments of reservoir shall each have a minimum of fluid equal to at least the volume displaced by the master cylinder piston servicing the subsystem during a <u>full stroke</u> of the piston. NOTE: Procedure uses three strokes to ensure an accurate measurement.		
Fluid displaced by three strokes of master cylinder piston for Secondary (Subsystem No. 2)	23.0 ml			
Fluid displaced per stroke, Subsystem No. 1.	7.8 ml			
Fluid displaced per stroke, Subsystem No. 2.	7.7 ml			
Fluid available in partial compartment Subsystem No. 1	30 ml		X	
Fluid available in partial compartment Subsystem No. 2	80 ml		X	
Brake Power Unit Reservoir (S5.4.2)				
Volume displaced in charging system piston or accumulator to normal operating pressure plus wheel cylinder or caliper piston displacement.		Shall have a capacity at least equal to fluid displacement required to charge the system pistons on accumulators to normal operating pressure <u>plus</u> displacement when wheel cylinders or caliper pistons move from new lining to full worn condition as above.	NA	
Reservoir Labeling (S5.4.3)				
Exact copy of reservoir label: On top of master cylinder reservoir: <u>WARNING.</u> <u>CLEAN FILLER CAP BEFORE REMOVING.</u> <u>USE ONLY DOT 3 OR 4 BRAKE FLUID FROM</u> <u>A SEALED CONTAINER.</u>		Label shall read: "Warning, clean filler cap before removing; use only * fluid from a sealed container". * Fluid type specified in 49 CFR 571.116	X	
Measure letter height	3.2 mm	Letters shall be at least 3.2 mm/ 0.125" high	X	
Describe label attachment method and location. <u>Embossed on top of the master cylinder reservoir filler cap.</u>		Lettering shall be permanently affixed, engraved or embossed and located so as to be visible by direct view either on or within 100 mm/3.94 inches of the brake fluid reservoir filler plug or cap.	X	
Does the lettering contrast with the background?	Yes	If label is not engraved or embossed, letters shall be of a color that contrasts with the background	X	
	<u>No</u>			

Comments: None.

Technician: D. Bevis

DATA SHEET 30 (Part 4 of 5)
TEST COMPLETION INSPECTION (\$7.18)

VEHICLE: 2009 Honda Accord LX; NHTSA NO.: C95300; DATE: 03/05/09
BRAKE SYSTEM WARNING INDICATOR (\$5.5)

CONDITION	ANSWER	REQUIREMENTS	PASS	FAIL
Brake Systems Indicator Lamp <u>Function Check</u> (\$5.5.2) (Bulb and systems check)				
Describe location of brake indicator lamp: <u>Lower right hand quadrant of the instrument cluster (within speedometer nacelle).</u>	NA	Shall be in front, and in clear view, of driver.	X	
Does lamp light with ignition (start) switch at ON/RUN?	Yes	Automatic activation when ignition switch is "on" when engine not running , or ignition between "on" and "start" if is manufacturer check position- OR -single manual action by driver	X	
Does lamp light with ignition between ON and Start?	Yes			
Brake check description in owner's manual?	Yes	Manufacturer shall explain the brake check function test procedure in the owner's manual.	X	
Brake System Warning Indicator ACTIVATION (\$5.5.1) DURATION (\$5.5.3) FUNCTION (\$5.5.4)				
CONDITION	Light ON?	REQUIREMENT	PASS	FAIL
A. In event of hydraulic leak (1) On or before appearance of pressure differential of 218 psi (split system)	NA	When ignition (Start) switch is ON , lamp must light whenever (A), (B), (C), or (D) occurs. In addition, if service brake system is not a split system, audible warning must be activated when any condition in (A) exists. Visual warning indicator for non-split systems must be flashing.	X	
(2) If any reservoir falls below either "safe" level or 25% of capacity, whichever is greater. Values: 164 ml or cc (ON above "min" mark).	Yes			
(3) On or before supply pressure to brake power unit falls to 50%	NA			
B. Electrical functional failure in an antilock or variable brake proportioning system.	Yes		X	
C. Application of the parking brake.	Yes			
D. Brake lining wear-out if optical warning.	NA			
E. <i>For a vehicle with <u>electrically-actuated service brakes</u>, failure of the source of electric power to the brakes or diminution of state of charge of the batteries.</i>	NA			
F. <i>For a vehicle with <u>electric transmission of the service brake control signal</u>, failure to a brake control circuit.</i>	NA			
G. <i>For an EV with RBS that is part of the service brake system failure of RBS.</i>	NA			
Must have Audible alarm if <u>not split system</u> and a condition in (a) above exists?	NA			
If condition (A) (2) above does not exist, then fluid reservoir must be transparent for fluid check without the need for reservoir to be opened? (\$5.4.4)	NA			
Indicator lamps remain activated as long as condition exists - ignition "on", and engine on or off? _____ (\$5.5.3 DURATION))	Yes			
Visual warning – continuous or flashing? Audible warning –continuous or flashing?	Yes-Cont. No			

Comments: None.
Technician: D. Bevis

DATA SHEET 30 (Part 5 of 5)
TEST COMPLETION INSPECTION (\$7.18)

VEHICLE: 2009 Honda Accord LX; NHTSA NO.: C95300; DATE: 03/05/09

BRAKE SYSTEM WARNING INDICATOR LABELING (S5.5.5)

CONDITION AND REQUIREMENT	ANSWER NOTE: Standard requires that the answer to questions be YES	PASS	FAIL
Are visual indicators legible to driver in daylight and nighttime conditions when activated?	Yes	X	
Are visual indicator words 3.2 mm (.125") high minimum? Record Height: "Brake" – <u>3.2 mm</u> ; "ABS" – <u>3.2 mm</u> .	Yes	X	
Visual indicator words and background contrasting colors, one of which is red. Record colors <u>Letters – Red, Lens – Black</u>	Yes	X	
If split system, is there one brake indicator? If yes, does it say the word "Brake"? (With one symbol adjacent.)	Yes	X	
If not split system; is there a separate indicator for loss of fluid or fluid pressure? Does this indicator say "Stop-Brake Failure"? Are the letters block and not less than 6.4 mm (.25") in height? Record letter height _____	NA		
If separate indicator for: 1. Low brake fluid per S5.5.1(a)(1), does indicator say "Brake Fluid"? NOTE: not required for mineral oil system Record wording: _____ 2. Gross pressure loss per S5.5.1(a)(2), does indicator say "Brake Pressure"? Record wording: _____ 3. Electrical functional failure in antilock or variable proportioning system per S5.5.1(b), letters and background contrasting colors one of which is yellow? Record colors <u>Lens – Black, Letters – Yellow</u> . Does indicator say "Antilock" or "ABS" or "Brake Proportioning"? Record wording: <u>"ABS" within a symbol</u> . 4. Parking brake per S5.5.1(c), does indicator say "Park" or "Parking Brake"? Record wording: _____ 5. Brake lining wear-out per S5.5.1(d), does indicator say "Brake Wear"? Record wording - _____ 6. <i>If separate indicator for RBS, the letters and background shall be of contrasting colors, one of which is yellow. The indicator shall be labeled "RBS". RBS failure in a system which is part of the service brake system may also be indicated by a yellow lamp that also indicates "ABS" failure and displays the symbol "ABS/RBS."</i> Record wording: _____ 7. For any other function? If yes, Record _____ NA	NA NA Yes Yes NA NA NA NA	X	

DATA INDICATES COMPLIANCE: YES X NO _____

Comments: None.

Technician: D. Bevis

DATA SHEET 31 (Part 1 of 2)

CALCULATION OF MINIMUM RESERVOIR VOLUME REQUIREMENTS

VEHICLE: 2009 Honda Accord LX; NHTSA NO.: C95300; DATE: 03/06/09

BRAKE		LINING		
LOCATION	TYPE	DESCRIPTION	MINIMUM THICKNESS	THICKNESS TO FULLY WORN (1) mm*
Left Front	Drum	Leading	Pre-test 10.74 mm	1.0
		Primary	Post Test 10.29 mm	
		Inboard X	Δ 0.45 mm	
	Disc X	Trailing	Pre-test 10.69 mm	1.0
		Secondary	Post Test 10.26 mm	
		Outboard X	Δ 0.43 mm	
LINING CLEARANCE:	Diametrical (2): N/A	Inboard – 0.5 mm.	Outboard – 0.5 mm.	
WHEEL CYLINDER DIAMETER (3): N/A		CALIPER PISTON DIAMETER (3): 57.07 mm (x1 piston).		
SHOE CAGE DIAMETER (4) <u>N/A</u> ; CENTER POINT OF BRAKE ASSY TO CENTER POINT OF W.C. <u>N/A</u>				
Right Rear	Drum	Leading	Pre-test 8.41 mm	1.0
		Primary	Post Test 8.03 mm	
		Inboard X	Δ 0.38 mm	
	Disc X	Trailing	Pre-test 8.53 mm	1.0
		Secondary	Post Test 8.23 mm	
		Outboard X	Δ 0.30 mm	
LINING CLEARANCE:	Diametrical (2) N/A mm	Inboard – 0.4 mm	Outboard – 0.4 mm	
WHEEL CYLINDER DIAMETER (3): N/A		CALIPER PISTON DIAMETER (3): 37.57 mm (x1 piston).		
SHOE CAGE DIAMETER (4): N/A		CENTER POINT OF BRAKE ASSY TO CENTER PT. OF W.C.: N/A		
CIRCUIT #1 CONSISTS OF:	LF	LR - X	RF- X	RR
CIRCUIT #2 CONSISTS OF:	LF - X	LR	RF	RR - X
(1) MFRS. RECOMMENDATIONS – FRONT and REAR: 1.0 mm.				
(2) REAR – 0.4 mm. FRONT – 0.5 mm.				
(2) DRUM BRAKES, MEASURED AT HORIZONTAL CENTERLINE: NA.				
(3) MFRS. DATA: FRONT – 57.2 mm, 1 piston; REAR – 38.18 mm, 1 piston.				
(4) RESET POSITION: NA.				

Comments: Manufacturer's total thickness (new linings) data: Frts.: 11.0 mm; Rears: 9.0 mm.

Technician: D. Bevis

DATA SHEET 31 – SECTION CONTINUED (Part 2 of 2)

Vehicle: 2009 Honda Accord LX;

NHTSA No.: C95300;

Date: 03/11/09

Procedure and Example for Determining Master Cylinder Volume Requirement

The procedure followed for determining the minimum volume requirements is outlined in the example shown below. The required data is taken from the previous page, both measured and manufacturer's data.

DISC BRAKES

Volume Required, $V_r = (\Delta t_i + t_{ic} + \Delta t_o + t_{oc}) \times [\pi (D^2)]/4$, where –

- V_r = Volume required per wheel
- Δt = Change in thickness (average)
- i = Inboard
- o = Outboard
- D = Caliper cylinder diameter
- c = Average clearance

Using the above equations, the volume requirements for Subsystem No. 1 (RF/LR) and Subsystem No. 2 (LF/ RR) were calculated utilizing measured and manufacturer's provided data to create the greatest displacement, as shown below:

Disc Brake: $V_r = (\Delta t_i + t_{ic} + \Delta t_o + t_{oc}) \times \frac{\pi D^2}{4}$
(Front)

$$\begin{aligned}\Delta t_i &= 10 \text{ mm} \\ \Delta t_o &= 10 \text{ mm} \\ t_{ic} + t_{oc} &= 1.0 \text{ mm} \\ D &= 57.2 \text{ mm} \\ V_r &= (10 + 0.5 + 10 + 0.5) \frac{\pi (57.2)^2}{4} \\ &= 21 (2569.7) \\ &= 53963.6 \text{ mm}^3 = 53.9 \text{ ml (x1 Piston)} = 53.9 \text{ ml}\end{aligned}$$

Disc Brake: $V_r = (\Delta t_i + t_{ic} + \Delta t_o + t_{oc}) \times \frac{\pi D^2}{4}$
(Rear)

$$\begin{aligned}\Delta t_i &= 8.0 \text{ mm} \\ \Delta t_o &= 8.0 \text{ mm} \\ t_{ic} + t_{oc} &= 0.8 \text{ mm} \\ D &= 38.18 \text{ mm} \\ V_r &= (8.0 + 0.4 + 8.0 + 0.4) \frac{\pi (38.18)^2}{4} \\ &= 16.8 (1144.9) \\ &= 19234.1 \text{ mm}^3 = 19.2 \text{ ml (x1 Piston)} = 19.2 \text{ ml}\end{aligned}$$

For System 1 (RF & LR)

$$V_{r1} = 53963.6 \text{ mm}^3 + 19234.1 \text{ mm}^3 = 73197.7 \text{ mm}^3$$

$$V_{r1} = 73197.7 \text{ mm}^3 = (73.2 \text{ ml})$$

For System 2 (LF & RR)

$$V_{r2} = V_{r1}$$

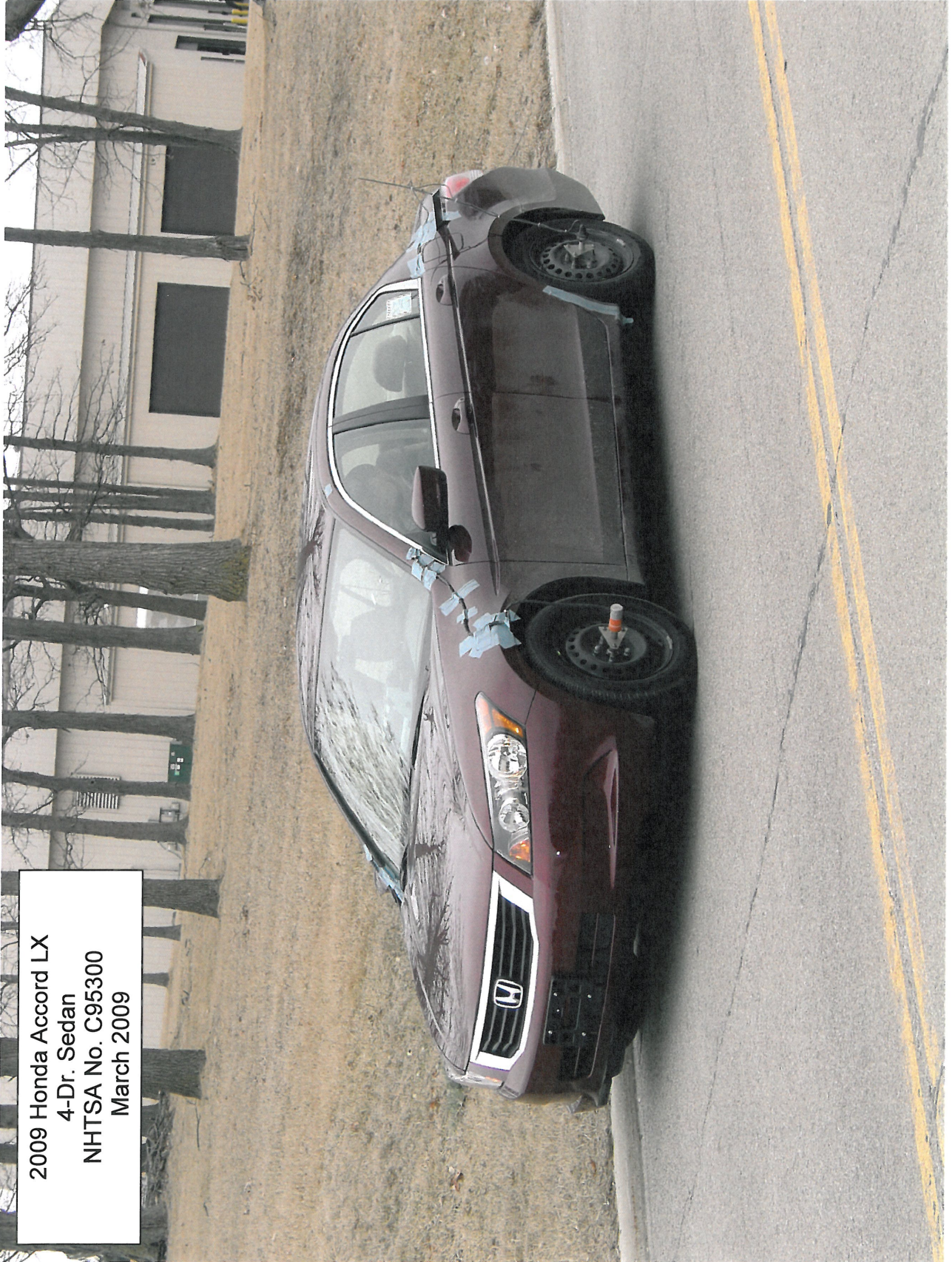
$$V_{r2} = 89523.4 \text{ mm}^3 = (73.2 \text{ ml})$$

$$\text{TOTAL VOLUME REQUIRED} = V_t = V_{r1} + V_{r2} = 73.2 + 73.2 = 146.4 \text{ ml}^*$$

Section 6.0

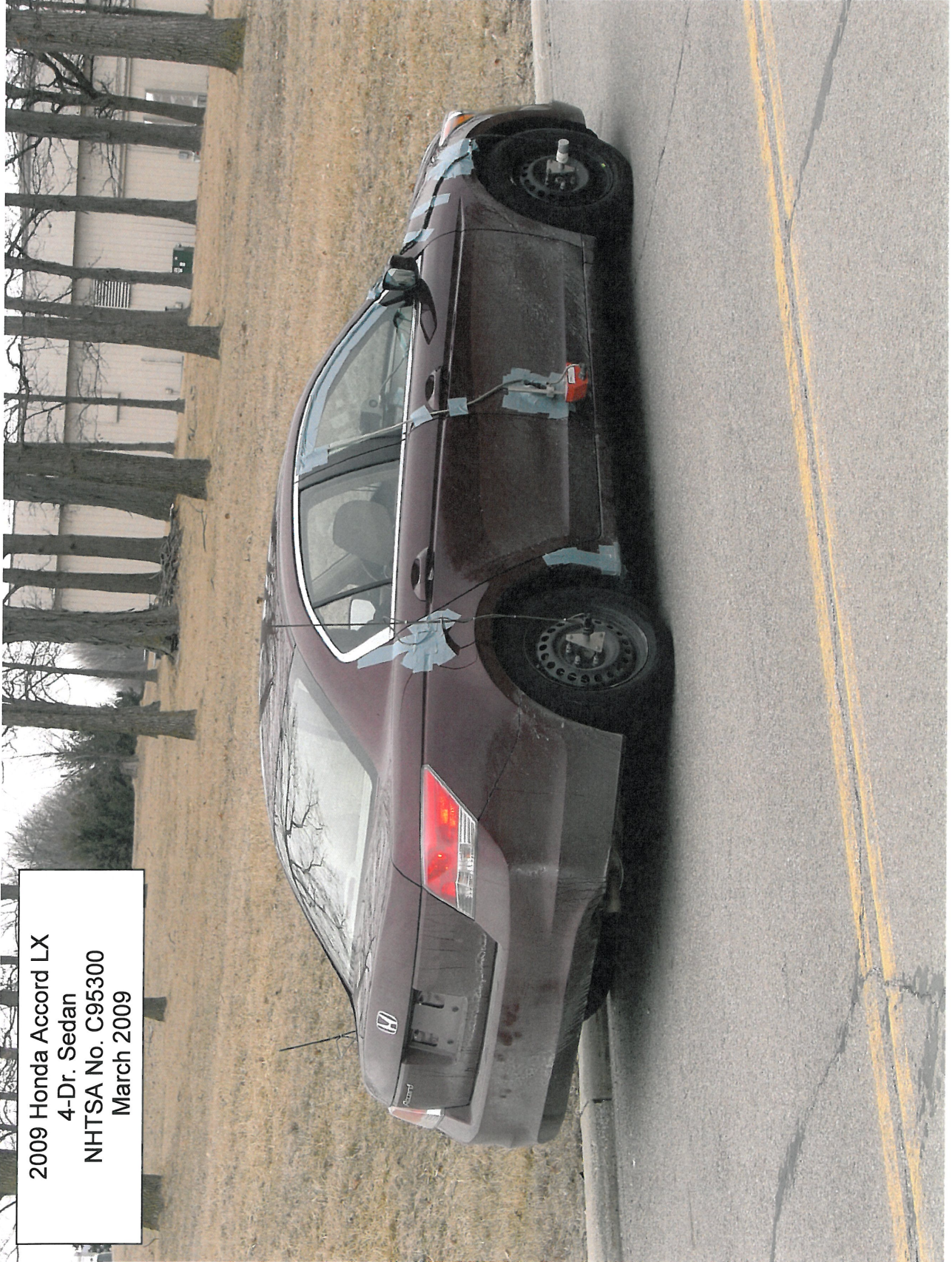
Photographs

2009 Honda Accord LX
4-Dr. Sedan
NHTSA No. C95300
March 2009



Left Front 3/4 View

2009 Honda Accord LX
4-Dr. Sedan
NHTSA No. C95300
March 2009



Right Rear 3/4 View

2009 Honda Accord LX
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MFD. BY HONDA OF AMERICA MFG., INC. 12/08
GVWR 4299LBS GAWR F 2337LBS R 2017LBS
GVWR 1950KG GAWR F 1060KG R 915KG
THIS VEHICLE CONFORMS TO ALL APPLICABLE
FEDERAL MOTOR VEHICLE SAFETY, BUMPER,
AND THEFT PREVENTION STANDARDS IN EFFECT
ON THE DATE OF MANUFACTURE SHOWN ABOVE.

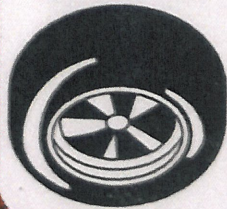
V.I.N.: 1HGCP25369A082848 TYPE: PASSENGER CAR



TA5 9 AA1 - R530P - F - A

Vehicle Certification Placard

2009 Honda Accord LX
4-Dr. Sedan
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March 2009



TIRE AND LOADING INFORMATION

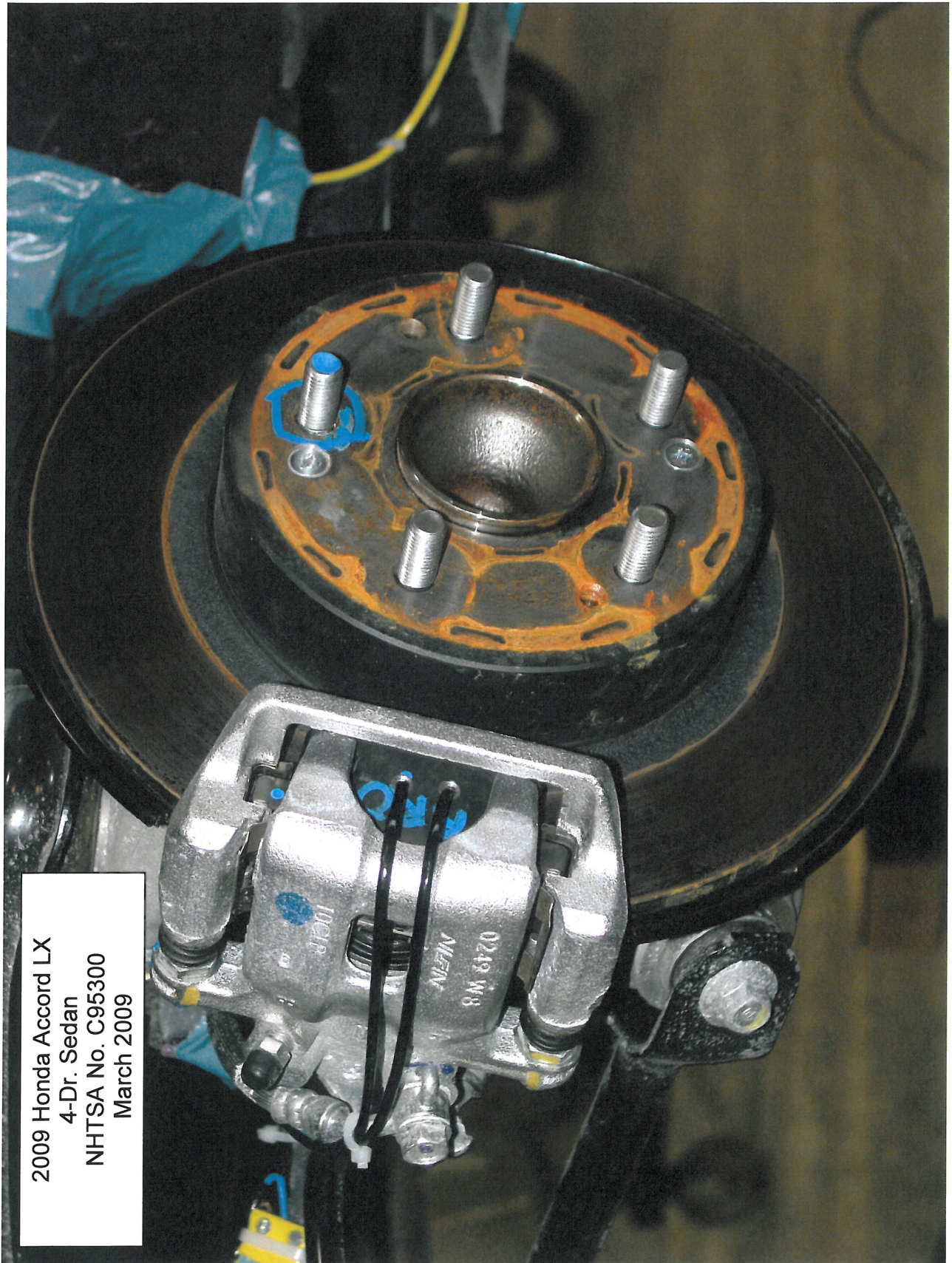
SEATING CAPACITY : TOTAL 5 : FRONT 2 : REAR 3

The combined weight of occupants and cargo should never exceed 385kg or 850lbs.

TIRE	SIZE	COLD TIRE PRESSURE	SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION
FRONT	P215/60R16 94H	210KPA, 30PSI	
REAR		210KPA, 30PSI	
SPARE	T135/80D16 101M	420KPA, 60PSI	

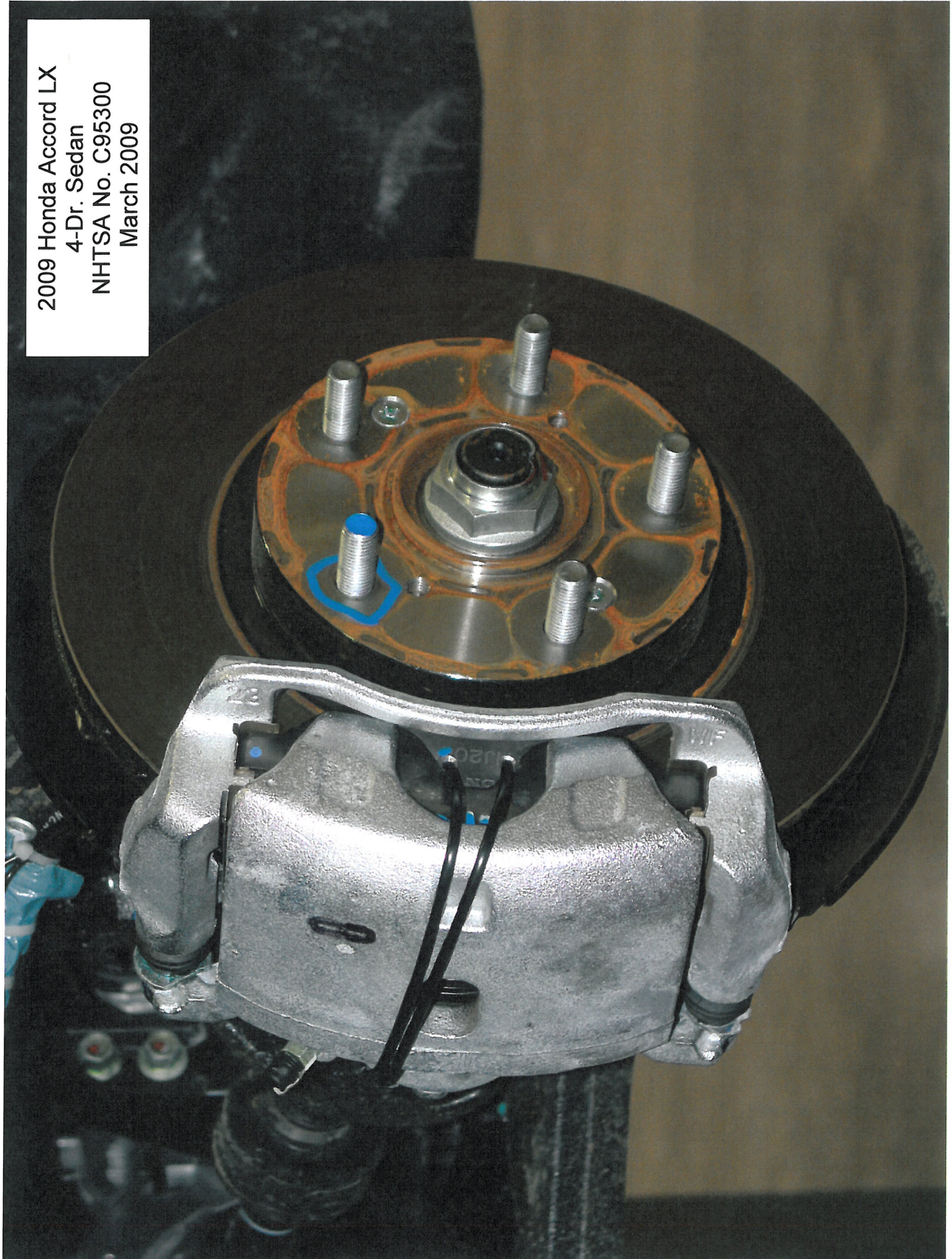
1A

2009 Honda Accord LX
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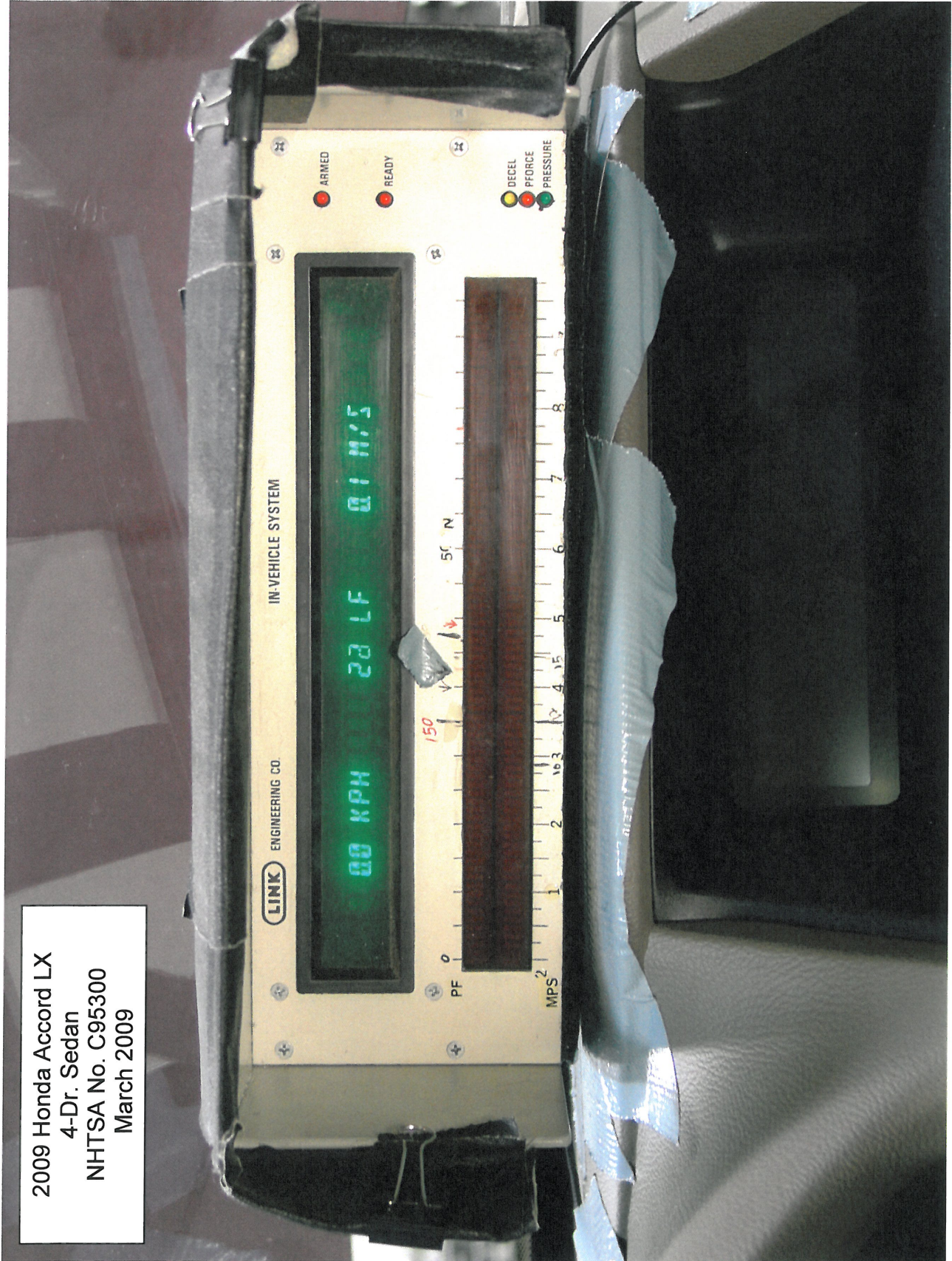
Left Front Thermocouple Installation

2009 Honda Accord LX
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Right Rear Thermocouple Installation

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March 2009



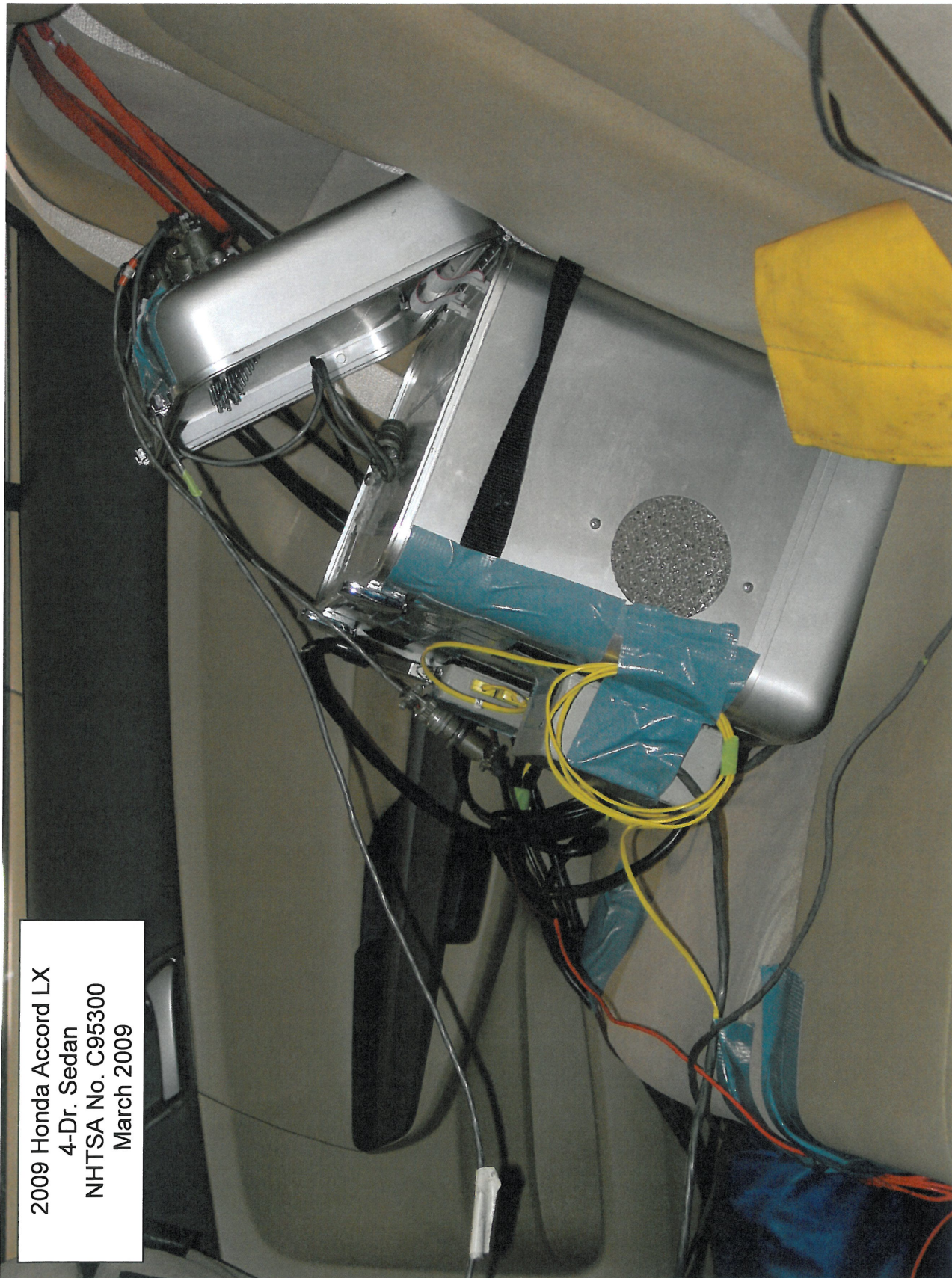
Test Instrumentation in Vehicle

2009 Honda Accord LX
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NHTSA No. C95300
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Test Instrumentation in Vehicle

2009 Honda Accord LX
4-Dr. Sedan
NHTSA No. C95300
March 2009



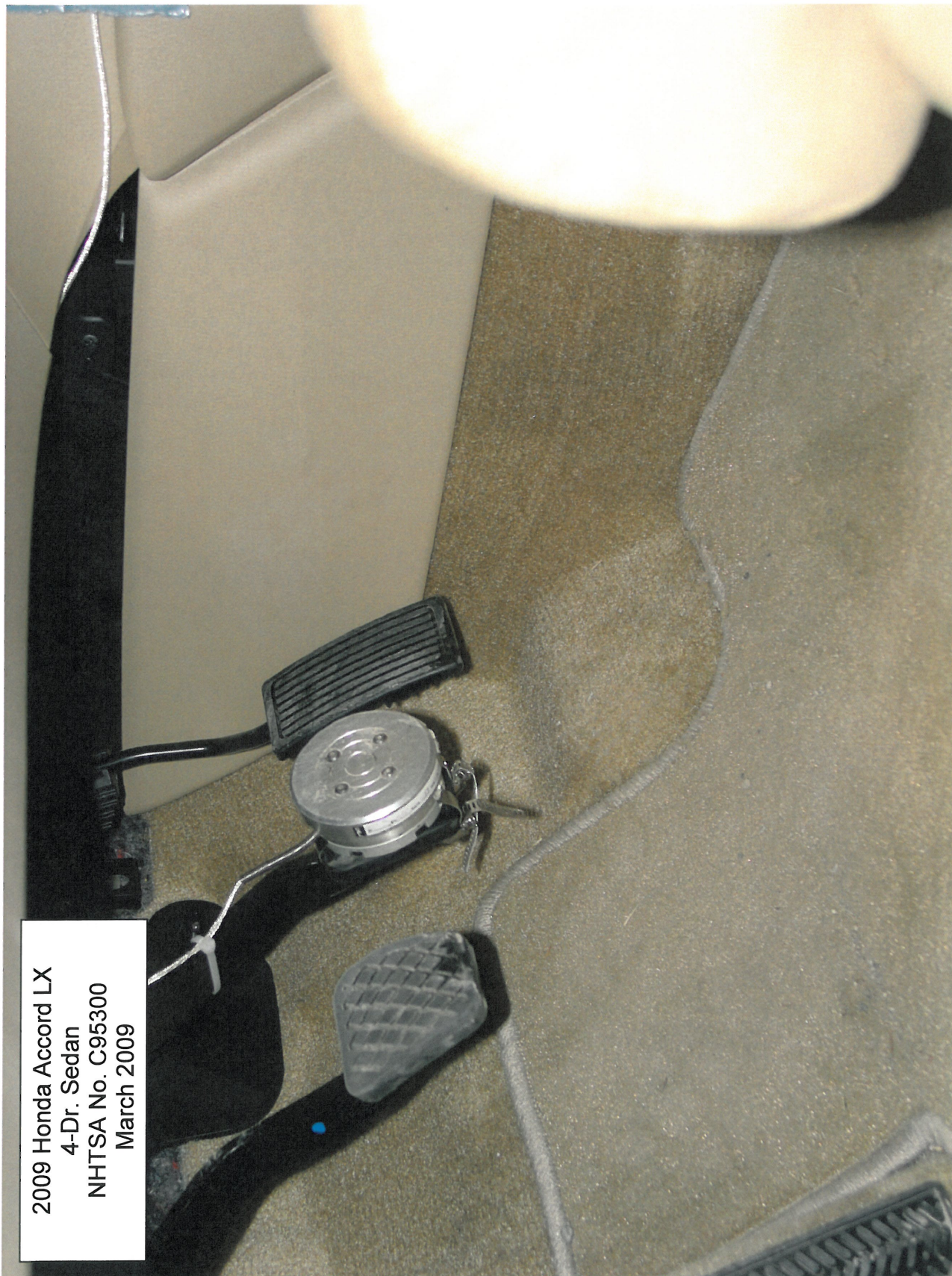
Test Instrumentation in Vehicle

2009 Honda Accord LX
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Test Instrumentation in Vehicle

2009 Honda Accord LX
4-Dr. Sedan
NHTSA No. C95300
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Test Instrumentation in Vehicle

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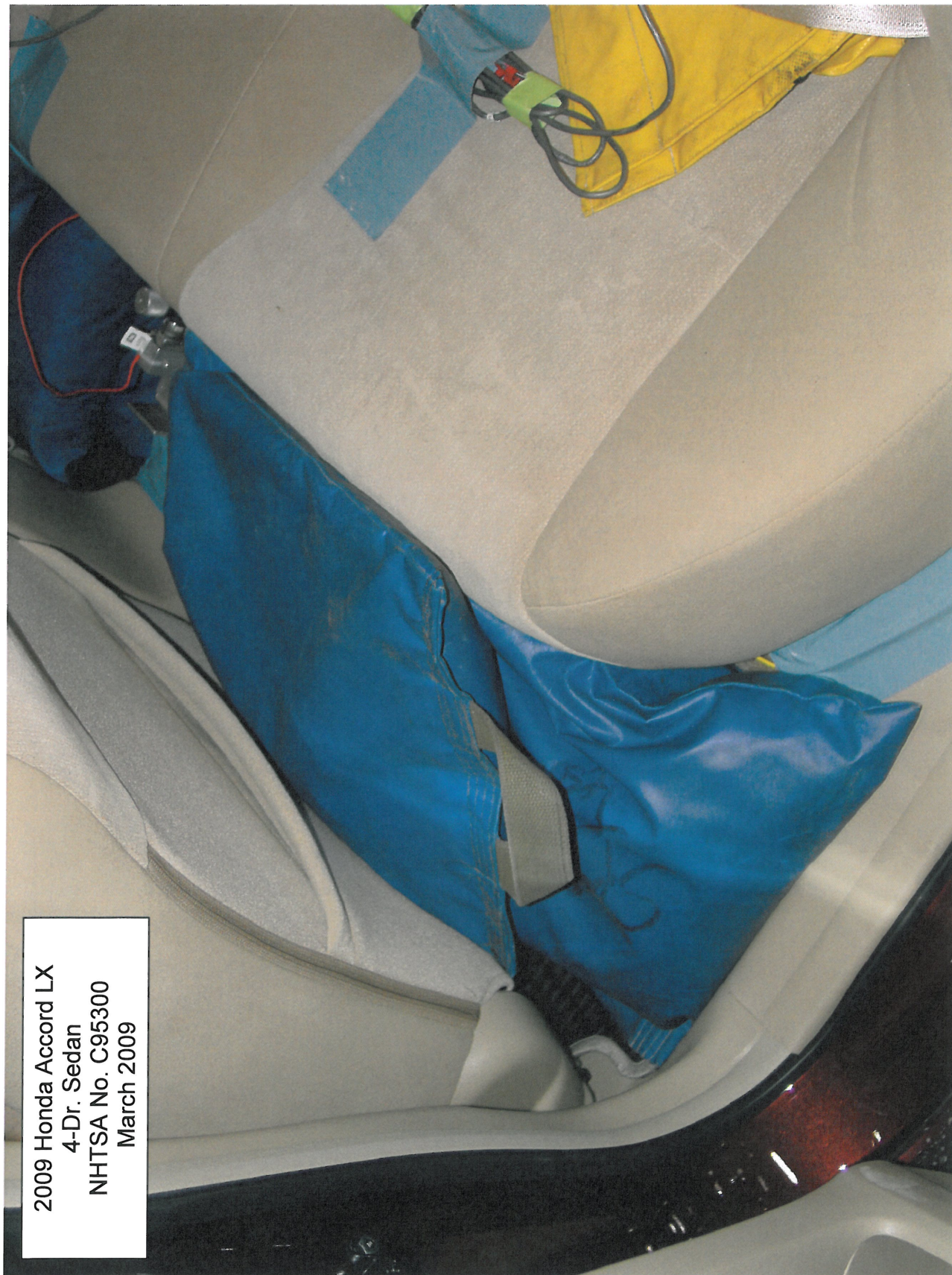


Vehicle Being Weighed



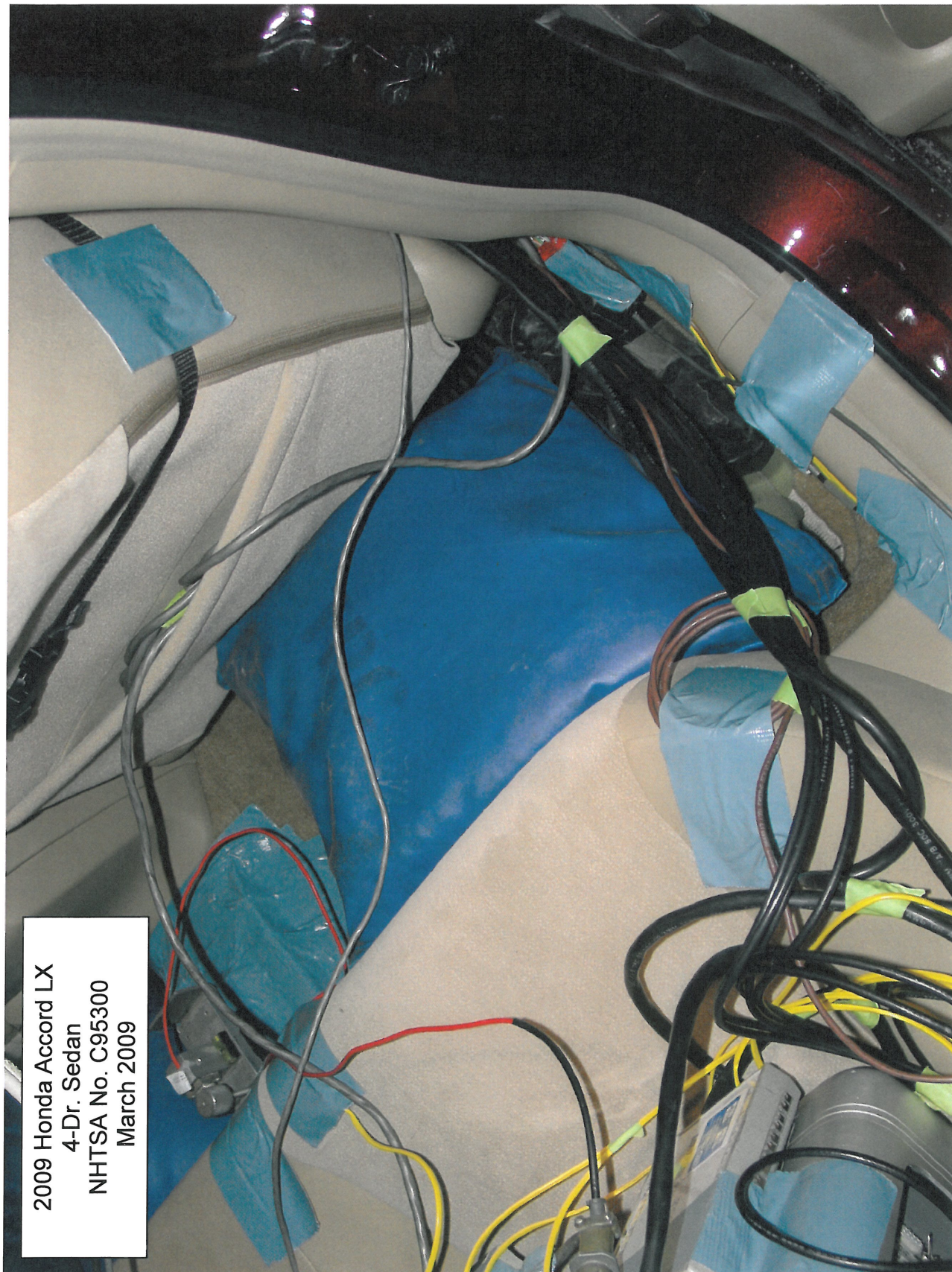
2009 Honda Accord LX
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Ballast in Vehicle



2009 Honda Accord LX
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NHTSA No. C95300
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Ballast in Vehicle



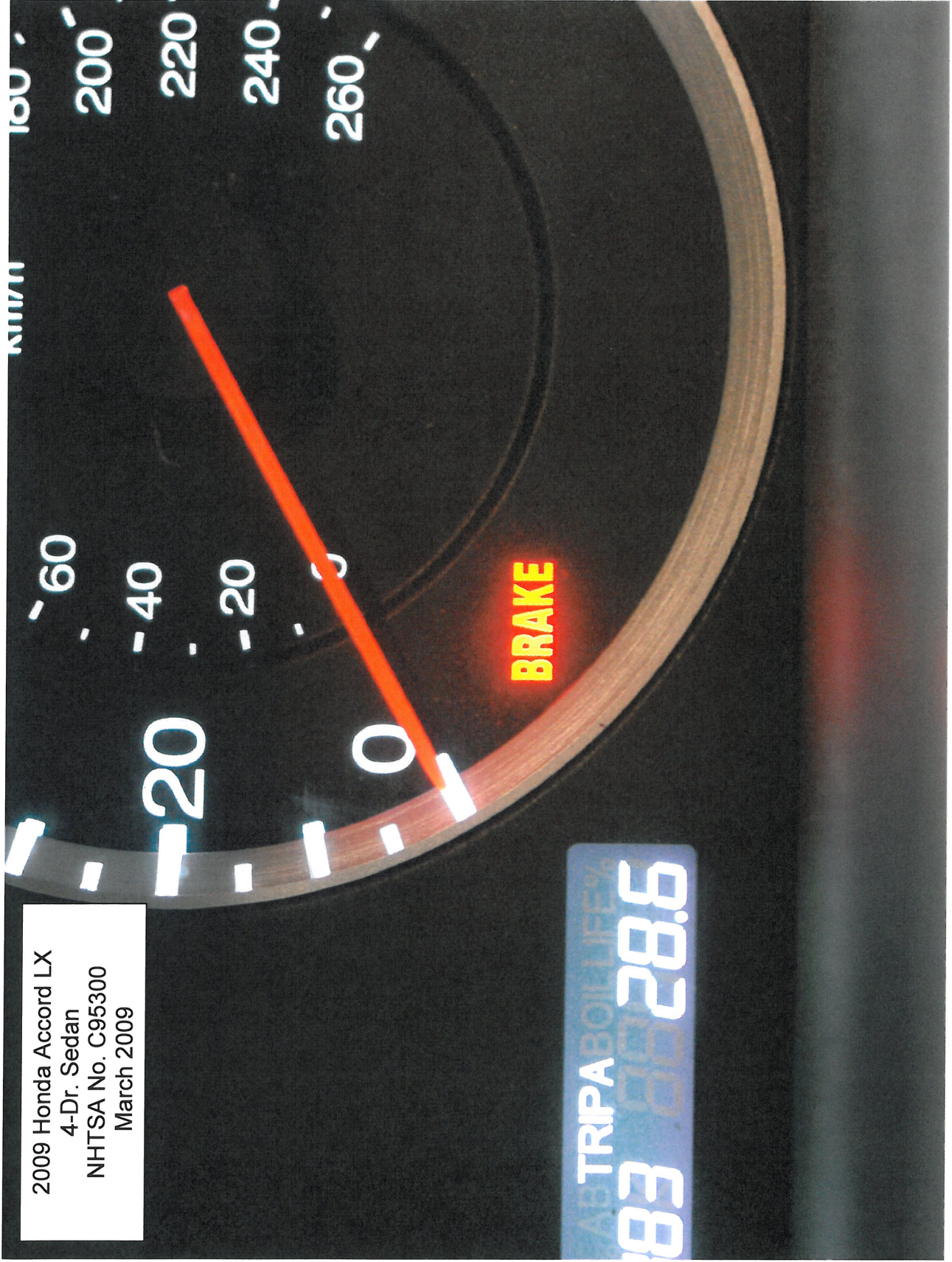
Ballast in Vehicle



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Ballast in Vehicle

2009 Honda Accord LX
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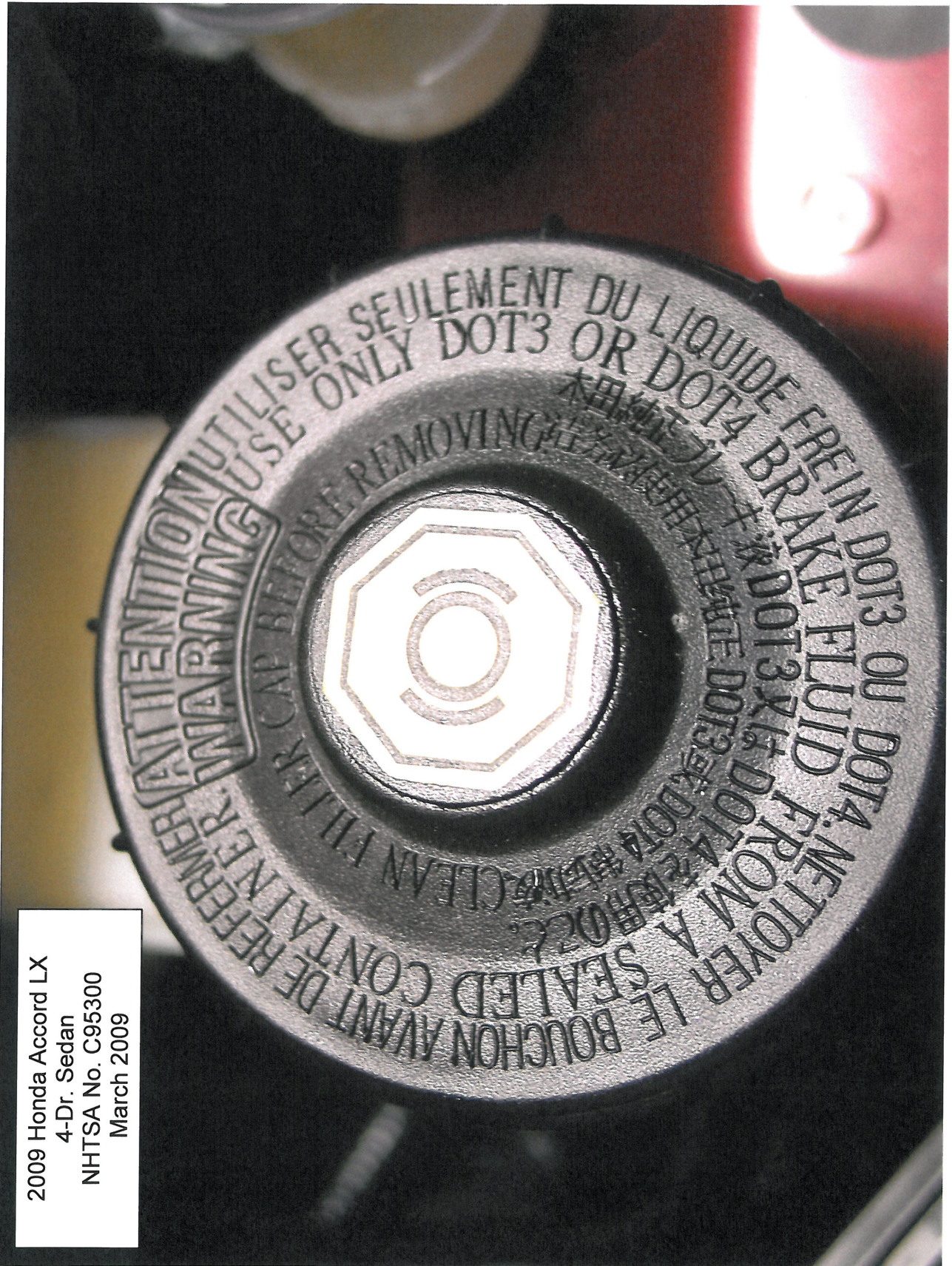


Brake System Indicator (Warning) Lamp



ABS Indicator (Warning) Lamp

2009 Honda Accord LX
4-Dr. Sedan
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March 2009



Brake Fluid (Master Cylinder) Reservoir Warning Label

7.0 INSTRUMENT CALIBRATION (12 MONTH MAXIMUM INTERVAL)

VEHICLE: 2009 Honda Accord LX; NHTSA NO.: C95300; DATE: 02/23/09

INSTRUMENT	SERIAL NUMBER	CALIBRATION DATE	NEXT CALIBRATION
Data Acquisition System - Link DAS 2082	980382	06/11/08	06/11/09
Computer – Dell/Link Engrg.	TRC-43207	Not Applicable	Not Applicable
Software - Link Engrg. Rev Data	TRC Propr.	NA	NA
LF Torque Wheel	Not Utilized		
RF Torque Wheel	Not Utilized		
LR Torque Wheel	Not Utilized		
RR Torque Wheel	Not Utilized		
Stopwatch – Fisher Scientific (Heating Snubs)	SN-97216633	08/27/08	08/27/09
Stopwatch – Accusplit (Daily Cals)	SW-ST04	10/26/08	10/26/09
Tire Pressure Gauge – WIKA	AG-101 97216633	02/05/09	05/05/09
Pedal Force Transducer – Sensor Devel.	169755	Each Test	Each Test
Asst. Pipe-Handle Steel Weights - Ohaus	LB-0001	06/04/08	06/04/09
Park Brake Force Transducer – Interface	LC-41721	Each Test	Each Test
LF Hydraulic Pressure Transducer	Not Utilized		
RF Hydraulic Pressure Transducer	Not Utilized		
LR Hydraulic Pressure Transducer	Not Utilized		
RR Hydraulic Pressure Transducer	Not Utilized		
Accelerometer - Setra (+ or – 15 g) 141A	A-1055763	Each Test	Each Test
Fifth Wheel – ADAT DSR6/1aa Radar	07030215461	Each Test	Each Test
Wind Velocity/Direct. – Davis Model 6410	050608N22	07/13/08	07/13/09
Ambient Temp. Gage–Davis Mod. 6150	050608N02	07/13/08	07/13/09
LF Brake Thermocouple - Temprel/Link	T52-0B-24K	Ea. Test w/Link	Ea. Test w/Link
RF Brake Thermocouple - Temprel/Link	T52-0B-24K	Ea. Test w/Link	Ea. Test w/Link
LR Brake Thermocouple - Temprel/Link	T52-0B-24K	Ea. Test w/Link	Ea. Test w/Link
RR Brake Thermocouple - Temprel/Link	T52-0B-24K	Ea. Test w/Link	Ea. Test w/Link
Lock-up Detection System	TRC Propr.	Each Test	Each Test
Vehicle Weight – Toledo/Mettler Scales JAGXTREME 3000000, (Bldg. 70)	SN 5225831- 5JC	02/18/09	05/18/09

QUALITY ASSURANCE

DAILY CALIBRATIONS (1 of 3)

Vehicle: 2009 Honda Accord LX

NHTSA No.: C95300

Deceleration Calibration Data for Unit 9359

Desired full scale value is: 9.81 m/s/s

Allowed deviation is: + or - 0.15 m/s/s

Accelerometer Level to zero, then tilt to
full scale

"Date"	"Time"	Zero	Cal
"stp"	"stp"	"Decel"	"Decel"
2/24/2009	12:19:31	-0.01	9.87
2/24/2009	15:52:42	0.02	9.81
2/25/2009	9:21:25	0.03	9.75
2/25/2009	15:38:36	-0.01	9.78
3/2/2009	8:22:03	0.00	9.86
3/3/2009	8:27:48	0.01	9.79
3/3/2009	15:23:49	0.00	9.80
3/4/2009	8:30:56	-0.03	9.79
3/4/2009	13:35:09	-0.07	9.79
3/4/2009	14:26:29	0.02	9.75

PRE TEST CAL.

POST TEST CAL.

Pre-Test Linearity Check 02/24/2009

Actual (m/s/s)	Rec. (m/s/s)
0.0	0.0
3.0	3.0
6.1	6.1
9.8	9.8

Post-Test Linearity Check 03/04/2009

Actual (m/s/s)	Rec. (m/s/s)
0.0	0.0
3.0	3.0
6.1	6.1
9.8	9.8

Distance Calibration Data for Unit 9359

Desired full scale value is: 1000 m

Allowed deviation is: 3 m

Light beam Drive from 0 to 100 to 0 km/h
distance sensor on a measured kilometer

"Date"	"Time"	Distance for
"stp"	"stp"	1000 meters
2/24/2009	14:26:10	1000.1
2/24/2009	15:55:59	1000.1
2/25/2009	9:25:04	999.7
2/26/2009	8:35:50	999.2
2/26/2009	15:16:40	1000.1
3/2/2009	8:25:17	999.3
3/3/2009	8:31:12	999.4
3/4/2009	8:34:20	1000.6
3/4/2009	13:39:57	1000.5

PRE TEST CAL

POST TEST CAL

DAILY CALIBRATIONS CONTINUED (2 of 3)

Vehicle: 2009 Honda Accord LX

NHTSA No.: C95300

Wheel Tachometer Calibrations for Unit 9359

Wheel tachometer calibrations: all wheel speeds should be 15 km/h

Wheel Lock Detector	While at a standstill, check zeros.	"Date"	"Time"	Zero	@15km/h	Zero	@15km/h	Zero	@15km/h	Zero	@15km/h	
		stp	stp	LF	LF	RF	RF	LR	LR	RR	RR	
		2/26/2009	14:18:55	0.0	15.6	0.0	18.0	0.0	16.5	0.0	17.0	PRE TEST CAL.
		2/26/2009	15:12:59	0.0	16.4	0.0	18.2	0.0	16.3	0.0	16.8	
		3/2/2009	8:27:37	0.0	17.5	0.0	19.4	0.0	16.8	0.0	17.2	
		3/3/2009	8:37:12	0.0	16.7	0.0	18.2	0.0	16.4	0.0	4.5	
		3/3/2009	8:39:08	0.0	18.4	0.0	19.0	0.0	16.9	0.0	17.4	
		3/4/2009	8:37:13	0.0	17.1	0.0	19.3	0.0	17.0	0.0	17.8	
		3/4/2009	13:42:58	0.0	16.3	0.0	19.4	0.0	16.8	0.0	17.2	POST TEST CAL.

When driven over 15 km/hr and the wheel tack generators are shunted to zero volts, does the graphical screen indicate wheel lock at position?: X Yes, No.

Pedal Force Meter Calibration for Unit 9359

Target shunt calibration is 388 N

Desired recorded value is: 388 N

Desired recorded actual force calibration check value is: 500 N

Allowed deviation is: 6.5 N

Service brk. pedal effort	Driver engages a fixed shunt cal switch.	"Date"	"Time"	Zero	Cal Val	
		stp	stp	Force	Force lb	
		2/24/2009	13:24:45	-0.3	499.7	PRE TEST CAL.
		2/24/2009	15:52:00	-0.9	388.7	
		2/25/2009	9:20:45	-0.4	388.4	
		2/25/2009	15:37:52	-0.3	388.6	
		2/26/2009	8:31:28	-0.4	388.8	
		2/26/2009	15:11:11	-0.3	388.7	
		3/2/2009	8:21:20	-0.2	388.6	
		3/3/2009	8:26:57	-0.4	388.6	
		3/3/2009	15:23:15	-0.3	388.7	
		3/4/2009	8:30:22	-0.2	388.3	
		3/4/2009	13:34:24	-0.3	388.5	
		3/4/2009	14:30:58	-0.1	503.4	POST TEST CAL.

Pre-Test Linearity Check - 02/24/09

Actual	Recorded
Force (N)	Force (N)
0	0
222	222
445	444
498	498

Post-Test Linearity Check - 03/04/09

Actual	Recrdd
Force (N)	Frc(N)
0	0
222	222
445	444
498	497

Parking Brake Transducer Cal - Pre & Post-Test: Shunt Cal - 331N, Unit 9359 - 03/04/09

Actual	Recorded
Force (N)	Force (N)
0	0
222	222
445	445

DAILY CALIBRATIONS CONTINUED (3 of 3)

Vehicle: 2009 Honda Accord LX

NHTSA No.: C95300

Dynamic Speed Calibration for Unit 9359

Desired speed value is: 100 km/h

Allowed deviation is: 1.6 km/h

Desired time value is: 36 seconds

Allowed deviation is: + or - 0.6 seconds

Light beam Drive vehicle
speed sensor at a steady
100 km/h
through a
kilometer.

"Date"	"Time"	"Speed"	Time"
stp	stp	km/h	sec
2/24/2009	14:33:55	100.5	36.16
2/24/2009	15:54:01	100.4	36.20
2/25/2009	9:23:09	100.3	36.16
2/26/2009	8:33:37	100.1	36.03
2/26/2009	15:15:04	100.5	36.19
3/2/2009	8:23:21	100.1	36.06
3/3/2009	8:29:12	100.2	36.13
3/4/2009	8:32:06	100.5	36.28
3/4/2009	13:37:42	100.6	36.28

PRE TEST CAL.

POST TEST CAL.

APPENDIX A

Copy of Manufacturer's Sticker



2009 ACCORD 4DR LX

VEHICLE NUMBER: 1HGCP25369A082848
ENGINE NUMBER: K2472-2030794 EXT: BASQUE RED PEARL
CONTROL NUMBER: 029964 INT: IVORY

STANDARD EQUIPMENT AT NO EXTRA COST

- **TECHNICAL FEATURES ***
 - 177hp 2.4-Liter DOHC 16-Valve i-VTEC 4-Cylinder Engine
 - 5-Speed Manual Transmission
 - Front and Rear Disc Brakes
 - Electronic Brake Distribution (EBD)
 - Brake Assist
 - Front Double Wishbone Suspension
 - Rear Multi-Link Suspension
 - Variable Gear Ratio and Assist Rack-and-Pinion Power Steering
 - Front and Rear Stabilizer Bars
 - EPA-Certified Tier-2 Bin-5
 - CARB-Certified ULEV2
 - 100K+/- Miles No Scheduled Tune-ups (May vary w/ driving conditions)

- **SAFETY FEATURES ***
 - Driver's and Front Passenger's Dual-Stage Airbags (SRS)
 - Driver's and Front Passenger's Side Airbags
 - Side Curtain Airbags
 - Vehicle Stability Assist (VSA)
 - Anti-Lock Braking System (ABS)
 - ACE Body Structure
 - Tire Pressure Monitoring System
 - 3-Point Seat Belts
 - Active Front Head Restraints
 - Side-Impact Door Beams
 - Daytime Running Lights (DRL)
 - Remote Entry System with Trunk Opener and Power Window Control
 - Immobilizer Theft Deterrent System
 - LATCH System for Child Seats

- **INTERIOR FEATURES ***
 - 160-Watt AM/FM/CD/MP3 Audio System with 6 Speakers
 - Steering Wheel Audio Controls
 - Radio Data System (RDS)
 - MP3/Auxiliary Input Jack
 - Air Conditioning
 - with Air Filtration System
 - Power Windows and Door Locks
 - Driver's Auto Up/Down Window
 - Tilt & Telescoping Steering Column
 - Illuminated Visor Vanity Mirrors
 - Cruise Control
 - Floor Mats
 - Maintenance Minder System
- **EXTERIOR FEATURES ***
 - 16" x 6.5" Steel Wheels with Full Wheel Covers
 - P215/60 R16 94H All-Season Tires
 - Power Door Mirrors

Manufacturer's
Suggested
Retail Price
\$20,755.00

Full Tank of Fuel
No Charge

Destination and Handling
670.00

TOTAL VEHICLE PRICE
(includes Pre-Delivery Service)

\$21,425.00

License and title fees, state and local taxes and dealer options and accessories are not included in the manufacturer's suggested retail price.

This vehicle is equipped with a front bumper of a type that has been tested at an impact speed of 5 miles per hour, and a rear bumper of a type that has been tested at an impact speed of 5 miles per hour, resulting in no damage to the vehicle's body and safety systems and minimal damage to the bumper and attachment hardware. *Minimal damage to the bumper means minor cosmetic damage that can be repaired with the use of common repair materials and without replacing any parts. The stronger the bumper, the less likely the vehicle will require repair after a low-speed collision. This vehicle exceeds the current federal bumper standard of 2.5 miles per hour.

DEALER: 208034



GANLEY HONDA
25870 LORAIN ROAD
NORTH OLMDSTED, OH 44070

PORT OF ENTRY: MARYSVILLE

DELIVERY POINT: CHICAGO

SHIP#: HN-0170

ROW/SPACE: 515-005

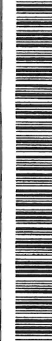
TRANS METHOD: TRUCK

ORIG. DLR: 208034

REF. NO: 40146

HN CODE: HN-0170

EMISSION: 50 STATE



VIN: 1HGCP25369A082848

EPA Fuel Economy Estimates

These estimates reflect new EPA methods beginning with 2008 models

CITY MPG

22

Expected range
for most drivers
18 to 26 MPG

Estimated

Annual Fuel Cost
\$2,460

based on 15,000 miles
at \$.10 per gallon

Combined Fuel Economy

This Vehicle

25

11 25
All LARGE CARS

HIGHWAY MPG

31

Expected range
for most drivers
25 to 37 MPG

Your actual
mileage will vary
depending on how you
drive and maintain
your vehicle



See the **FREE** Fuel Economy Guide at dealers or www.fueleconomy.gov



PARTS CONTENT INFORMATION

FOR VEHICLES IN THIS CARLINE

U.S./Canadian Parts Content: **65 %**

Major Sources of Foreign Parts Content:

JAPAN 20 %

NOTE: Parts content does not include final assembly, distribution or other non-parts costs.

GOVERNMENT SAFETY RATINGS

Frontal Crash Driver ★★★★★ Passenger ★★★★★

Star ratings based on the risk of injury in a frontal impact.

Frontal ratings should ONLY be compared to other vehicles of similar size and weight.

Side Crash Front seat ★★★★★ Rear seat ★★★★★

Star ratings based on the risk of injury in a side impact.

Rollover ★★★★★

Star ratings based on the risk of rollover in a single vehicle crash.

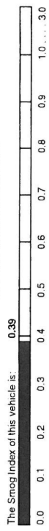
Star ratings range from 1 to 5 stars (★★★★★) with 5 being the highest.

Source: National Highway Traffic Safety Administration (NHTSA).

www.safercar.gov or 1-888-327-4236

SMOG EMISSIONS INFORMATION: The Smog Index (SI) indicates the relative level of smog-forming pollutants emitted by the vehicle. The lower the SI, the lower the vehicle's emissions.

The Smog Index of this vehicle is:



The Smog Index of the average vehicle is:

0.37

CLEANER ← → MORE POLLUTING

Information provided pursuant to California Title 18, CCR 1965

APPENDIX B

Discussion on Data

DISCUSSION ON DATA

Symbols for Brake Components

4	-	4 Wheel	G	-	Groan	DL	-	Deceleration (State FPSPS)
X	-	Skid	SQ	-	Squeal	PF	-	Pedal on Floor
L	-	Left	SQK	-	Squeak	SCP	-	Shoe Scrape
R	-	Right	PO	-	Pinchout	RB	-	Rubber Banding
R	-	Rear	P	-	Pull	O	-	Odor
F	-	Front	R	-	Shudder	NOX	-	No Skid
B	-	Both	M	-	Momentary			

INT or INIT	-	Initial Part of Stop
MID	-	Middle of Stop
END	-	End of Stop

All stops were made manually.

APPENDIX C

Contractor's Comments
Procedure Modifications
and
Test Facility

Comments for vehicle C95300.

For all recorded decelerations:

The recorded *average* deceleration values for the tests are slightly lower than that which is required or targeted for certain test sections. However, in all cases and in reality, the driver maintained the correct required/target deceleration values for the majority of time for each of those stops. The recorded deceleration is acquired from the moment the service brake pedal is moved until the vehicle reaches zero speed. Therefore, the time needed to achieve the target deceleration (rise time) and the time the vehicle goes from the target deceleration to zero (fall time) is included in the average deceleration calculation. The rise and fall times were added to the entire length of the stops. Hence, the recorded average deceleration values were generally and slightly less than the required/target deceleration values.

For Data Sheets 16 and 22, Antilock Functional Failures, the “VSA”, “ABS” and “BRAKE” lamps all alighted.

The Hydraulic Circuit Failure Tests were performed not to the lab procedure sequence to both save time and cause minimal disruption to the hydraulic brake system. Sequence: Circuit #1 @ LLVW; Circuit #2 @ LLVW: Circuit #2 @ GVWR and Circuit #1 @ GVWR.

7.5-MILE TEST TRACK

The 7.5-mile test track encloses a 1,600-acre area, one mile wide and 3.5 miles long.

The track has a downward grade, north to south, of 0.228 percent and a cross slope in the straightaways of 3/16 inch per foot. The 1.88 mile long straightaways flow into transition areas 2,300 feet in length and then into 5,275-foot long curves with a constant radius of 2,400 feet. The 36-foot wide straightaways and the 42-foot wide curves provide three test lanes. Paved berms, 12 feet in width, border the straightaways and the inside of the curves.

As a vehicle moves toward the outside of the track in the curves, it encounters a progressively steeper bank. The inside lane (or "slow" lane) has a bank of 10 degrees allowing a neutral speed of 80 mph with no side forces. In the center lane, the slope increases to 19 degrees resulting in a neutral speed of 110 mph. The outside lane's 28-degree bank allows a 140 mph neutral speed. Rimming the outer lane is a seven-foot safety lane culminating in a 36-degree slope at the guardrail.

The facility is paved with Portland cement concrete. It carries a maximum single axle load of 36,000 pounds and a maximum tandem axle load weight of 48,000 pounds. Special provisions can be made for heavier weight loads.

With 22.5 lane miles, our track will accommodate many vehicles simultaneously. Research which utilizes the track includes component performance and durability studies, brake tests, aerodynamic studies, fuel economy studies, drive line efficiency tests, and the determination of vehicular acceleration and cruise characteristics. In addition, it supports maximum speed determination, road load power, noise and emission measurements and tire durability test programs.

The 7.5-mile test track can be used in conjunction with other facilities at TRC. It provides an excellent area for pre-test conditioning of equipment such as brake burnishing, tire break-in, and vehicle warm-up.

TRC SKID PAD

The Skid Pad is a test facility which is utilized primarily for the evaluation of tire and brake systems.

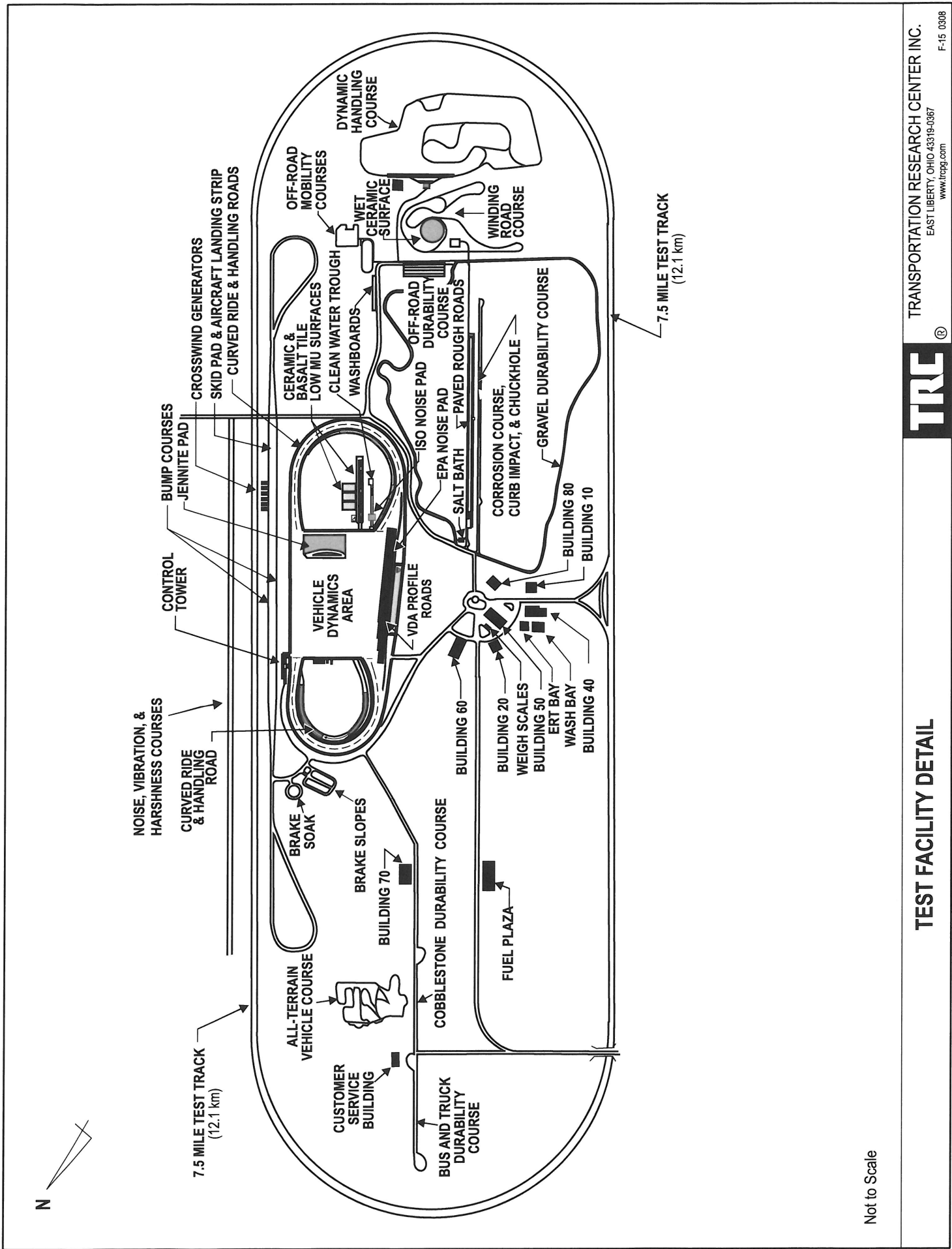
The overall dimensions of the pad are 9,000 feet by 84 feet with loops on the north and south ends. Both turnaround loops have a 309-foot radius and are 16 feet wide with a 25 percent super elevation. They will accommodate speeds of 45 mph with zero side force and 60 mph with .5 g's lateral acceleration. The acceleration/deceleration lanes at each end are 3,280 feet in length.

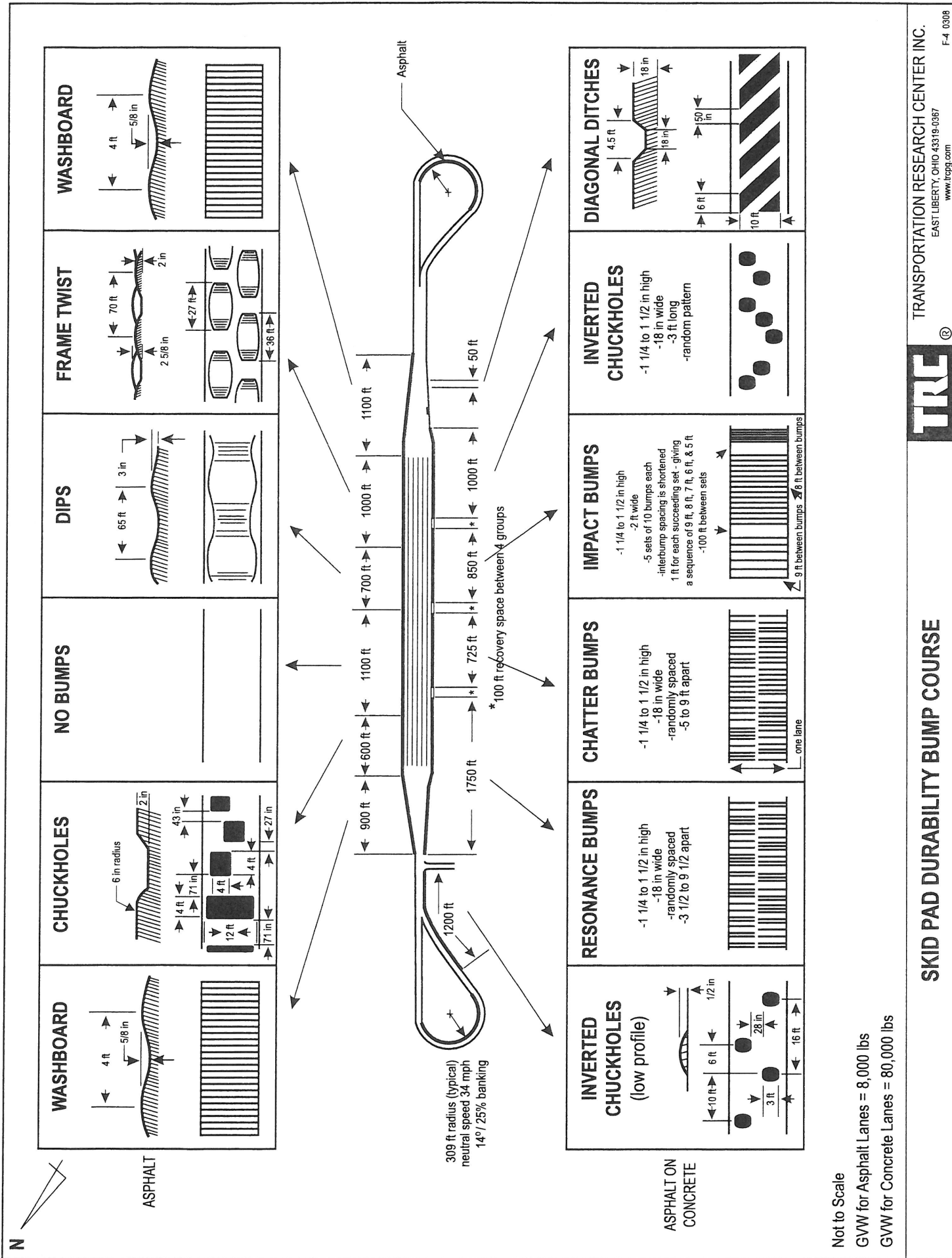
A test area of 210,000 square feet is situated in the center of the skid pad containing several test pads with varying surface textures. Skid numbers in this area range from 30 (wet) to 80 (dry).

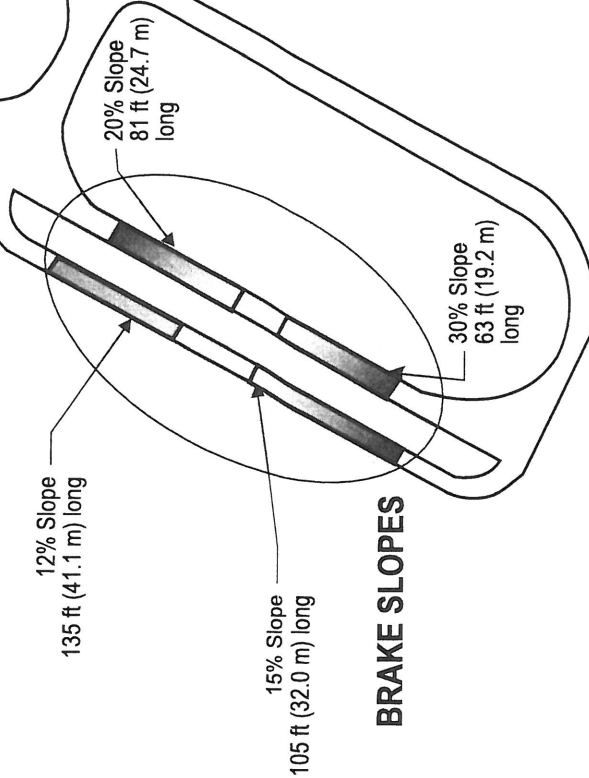
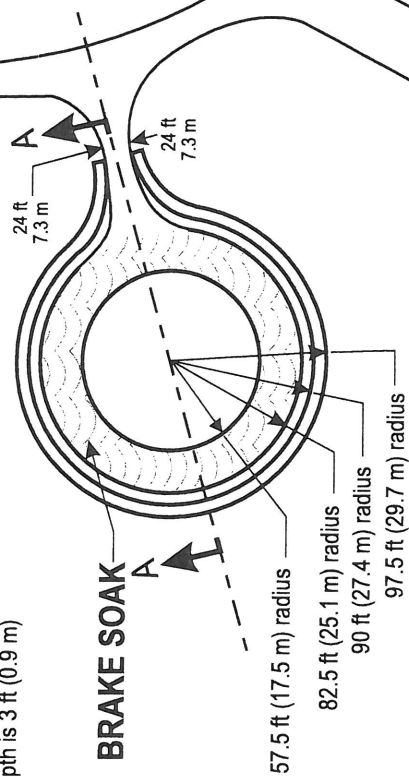
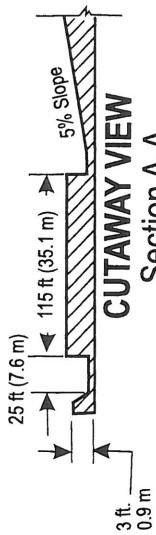
The skid pad is paved with Portland cement. The load capacity of the skid pad is 36,000 pounds maximum single axle weight and 48,000 pounds maximum tandem axle weight.

Varying surface textures in the main test area are ideal for testing tire and/or brake system performance on different surfaces as characterized by "skid numbers." The skid pad is also used for acceleration studies, aerodynamics, rolling resistance, noise testing, and vehicle top speed determination.

The subject test vehicle was rear wheel anti lock equipped. Rather than rapidly and fully applying the service brake control, the driver modulated the service brake control as necessary to control/prevent front wheel lock.







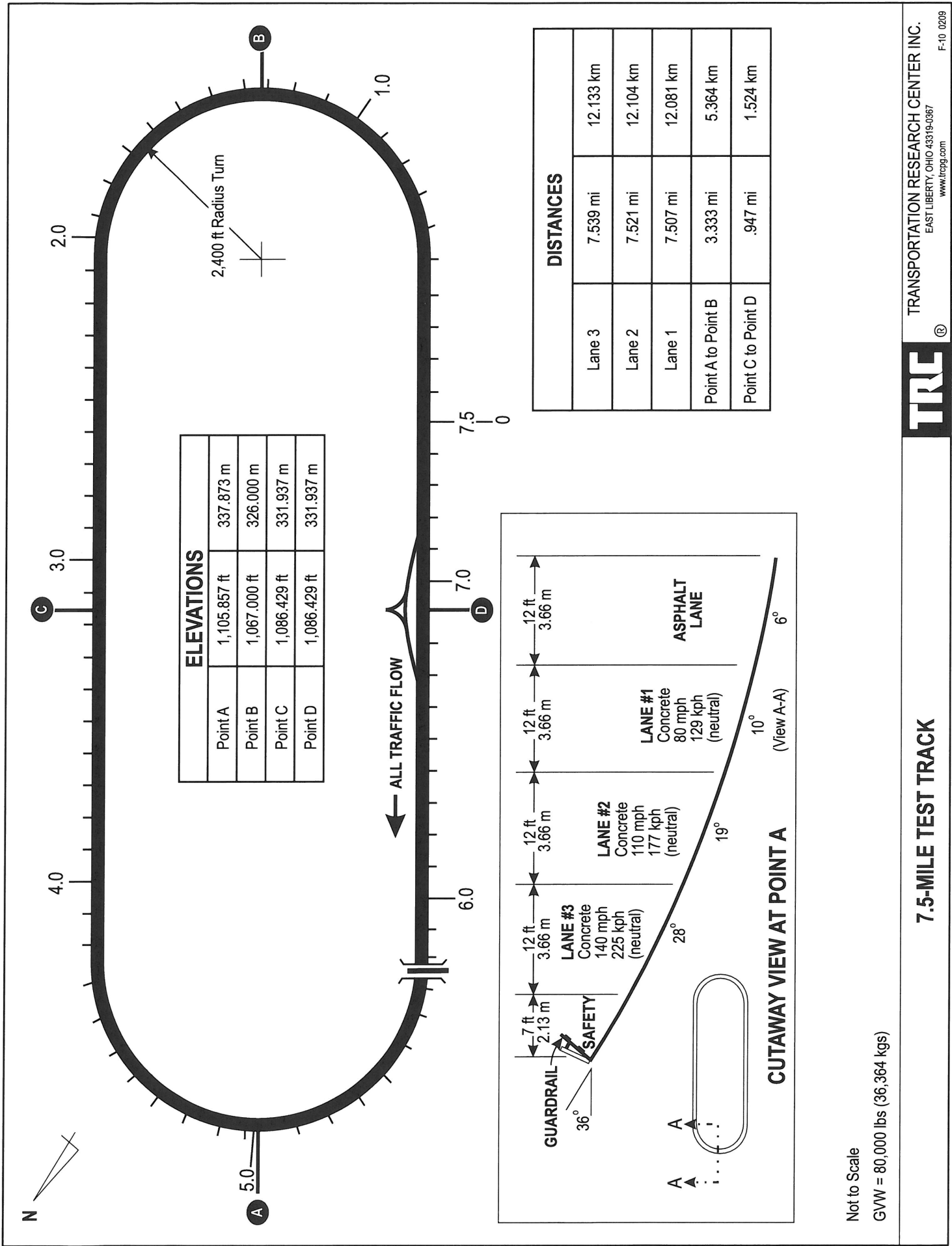
Not to Scale
GVW for Brake Soak = 36,000 lbs (16,364 kgs)
GVW for 12 & 15% Slopes = 8,000 lbs (3,636 kgs)
GVW for 20 & 30% Slopes = 80,000 lbs (36,364 kgs)

BRAKE SOAK & BRAKE SLOPES



TRANSPORTATION RESEARCH CENTER INC.
EAST LIBERTY, OHIO 43319-0367
www.trcg.com

F-3 0308



APPENDIX D
Notice of Possible Non-Compliance

This vehicle (C95300) met the requirements of the FMVSS 135 Standard.